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British Museum (Natural History).

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CATALOGUE

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IN THE

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(NATURAL HISTORY).

VOLUME II.

BY

GEORGE ALBERT BOULENGER, F.R.S.

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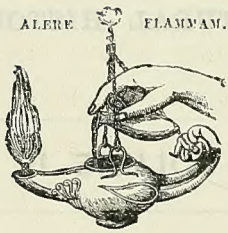

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PREFACE.

The present volume, which succeeds Volume I. after a comparatively short interval, contains the completion of the account of the Suborder Ostariophysi.

Of the Families belonging to this Suborder, the Characinidæ are described in Volume I., which also includes three genera of Cyprinidæ. The present volume thus contains the greater part of the Cyprinidæ and the whole of the Siluridæ.

Much of the material on which the Catalogue is based has been presented to the Museum. The lists given under the respective species contain some record of the way in which the specimens have been acquired, and imply an acknowledgment of the fact that the preparation of the Catalogue has been largely facilitated by public and private generosity.

SIDNEY F. HARMER,
Keeper of Zoology.

British Museum (Natural History),
London.
December, 1910.

INTRODUCTION.

The first volume of this Catalogue contained the descriptions of 302 species and the enumeration of 3380 specimens. In this second volume, which deals with the bulk of the Cyprinidæ and the whole of the Siluridæ, the number of species and specimens amounts to 428 and 4434 respectively.

The enormous increase in the number of species of *Barbus*, mostly discovered during the last decade, shows how greatly an exploration of the fresh-waters of Africa was needed. That our knowledge of these fishes, from the purely systematic standpoint, is still far from complete is shown by a large collection brought home from Angola by Dr. Ansorge since the present volume was set up in type, as it contains examples of as many as nine new species of *Barbus* to be added to the 185 here defined.

G. A. BOULENGER.

Zoological Department,
19th November, 1910.

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CATALOGUE

OF

AFRICAN FRESH-WATER FISHES.

Suborder II. OSTARIOPHYSI.

Fam. 2. CYPRINIDÆ (continued).

4. BARBUS.

Cuv. Règne Anim. ii. p. 197 (1817); Cuv. & Val. Hist. Poiss. xvi. p. 122 (1842); Heck. Russegger's Reis. ii. p. 1017 (1843); Günth. Cat. Fish. vii. p. 82 (1868); Bouleng. Poiss. Bass. Congo, p. 221 (1901), and Fish. Nile, p. 195 (1907).

Labeobarbus, Rüpp. Mus. Senckenb. ii. p. 14 (1837); Heck. l. c. p. 1019.

Cheilobarbus, A. Smith, Ill. Zool. S. Afr., Fishes (1841).

Pseudobarbus, A. Smith, l. c.

Capoëta, part., Cuv. & Val. t. c. p. 278.

Systomus, part., Heck. l. c. p. 1016.

Luciobarbus, Heck. l. c. p. 1019.

Puntius, Bleek. Nat. Verh. M. Wetensch. Haarl. xvii. 1862, p. 112.

Enteromius, Cope, Trans. Amer. Philos. Soc. (2) xiii. 1867, p. 407.

Barynotus, Günth. t. c. p. 61.

Body more or less compressed, covered with small, moderate, or large scales. Lateral line, if present, usually nearer the belly than the back, but always running along the middle of the caudal peduncle. Mouth small or moderately large, more or less protractile, with more or less

developed lips; barbels present or absent. Suborbitals not covering the cheek. Dorsal fin with or without ossified ray, with 9 to 14 rays, 6 to 11 of which are branched *. Anal fin short, with 7 to 10 rays *. A scaly process usually present at the base of the ventral fin. Pharyngeal teeth in three series (2 or 3, 3, 4 or 5—5 or 4, 3, 3 or 2), mostly with hooked, spoon-shaped crowns, one or more of the anterior of the inner series often molariform or mamilliform.

Europe, Asia, Africa.

Fig. 1.

Scales of three species of *Barbus*.

A. *B. bynni*; B. *B. pleurogramma*; C. *B. perince*.

The structure of the scales varies considerably according to the species. In *B. bynni* and its allies the exposed surface is striated by numerous longitudinal, scarcely radiating, straight or slightly wavy canals, visible to the naked eye or with the aid of a magnifier of low power †, whilst the centre is more or less finely rugose. In *B. fluviatilis* and other species with small scales the striations are likewise numerous, but they radiate fan-like from the centre; whilst in *B. perince*, and other small species with large scales, they are reduced to from two to five, radiating from the centre, the scales appearing smooth, but for the fine concentric striation (growth-lines) which is present on the scales of all Cyprinids. The three principal types of scales are here figured, as the character has been used in the arrangement of the species.

* The last ray is bifid and often cleft to the base, so as to appear as two; even when thus completely divided it is supported by a single bone, and is therefore reckoned as one.

† Except in specimens that have had the scales decalcified by preservation in formol.

DSI

Synopsis of the Species.

I. Exposed surface of scales striated by numerous longitudinal, or even somewhat converging, straight or slightly wavy canals * ; dorsal fin with 8 to 11 branched rays, the last simple ray, if ossified, never serrated ; two barbels on each side, rarely one †.

A. Last simple dorsal ray more or less enlarged, ossified, without trace of segmentation, at least in its basal half, forming a more or less strong spine ‡ ; anal with 5 branched rays §.

1. Ventral fin with its first ray in front of or below anterior rays of dorsal, or dorsal originating slightly in advance of ventrals ; $4\frac{1}{2}$–$8\frac{1}{2}$ scales between origin of dorsal fin and lateral line.

a. Lower lip continuous across the chin.

α. 36–46 scales in lateral line, 4–6 between lateral line and ventral, 16–18 round caudal peduncle.

Sc. 44–46 $\frac{8\frac{1}{2}}{8\frac{1}{2}}$, 5 ; dorsal with 9 branched rays ; posterior barbel not half diameter of eye, anterior usually absent . . . . . 1. *B. tropidolepis*, Blgr., p. 20.

Sc. 43 $\frac{7\frac{1}{2}}{9\frac{1}{2}}$, 5 ; dorsal with 8 branched rays ; posterior barbel $\frac{3}{5}$ diameter of eye . . . . 2. *B. polylepis*, Blgr., p. 21.

Sc. 36–42 $\frac{6\frac{1}{2}-7\frac{1}{2}}{6\frac{1}{2}-7\frac{1}{2}}$, 4 ; dorsal with 8 branched rays ; posterior barbel as long as eye ; first ray of ventral in advance of first ray of dorsal . . 3. *B. holubi*, Stdr., p. 22.

Sc. 40 $\frac{7\frac{1}{2}}{6\frac{1}{2}}$, 4 ; dorsal with 8 branched rays ; posterior barbel as long as eye ; first ray of dorsal in advance of first ray of ventral . . 4. *B. microterolepis*, Blgr., p. 23.

β. 32–37 scales in lateral line, 4 between lateral line and ventral, 12–14 round caudal peduncle ; dorsal with 8 branched rays.

Sc. 32–37 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, 4; posterior barbel 2 to $2\frac{1}{2}$ diameters of eye ; interorbital width $2\frac{3}{4}$ to 3 times in length of head ; lower lip with a median lobe . . . . . 5. *B. macronema*, Blgr., p. 24.

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* The species showing this type of scales (the *Bynni* or Mahseer Group) agree very closely in the number of vertebræ, viz. 40 to 44 (23–24+17–21).

† In *B. tropidolepis* and *B. micronema*.

‡ In the present synopsis, and in the descriptions, the length of the stiff part only is given.

§ It is of course impossible to marshall the multitude of species grouped under this head in anything like a linear series. Different groupings could be adopted according to the weight attached to the size of the scales, the structure of the mouth, the position of the dorsal fin, &c. The arrangement here followed is that which appears to the author to lead most readily to correct identification of specimens.

Sc. 33–36 $\frac{6\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, 4; posterior barbel $1\frac{3}{4}$ to 2 diameters of eye; interorbital width 3 to $3\frac{1}{3}$ times in length of head; lower lip not forming a median lobe . . . . . 6. *B. rueppelli*, Blgr., p. 25.

γ. 27–39 scales in lateral line, $2\frac{1}{2}$–$3\frac{1}{2}$ between lateral line and ventral §, 12–14 round caudal peduncle ‖.

* Interorbital width $2\frac{1}{3}$ to 3 times in length of head ¶.

† Depth of body much greater than length of head, $2\frac{2}{3}$ to $3\frac{1}{2}$ times in total length; posterior barbel usually longer than eye.

Sc. 31–39 $\frac{5\frac{1}{2}-7\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, 3–4; dorsal with 9 (rarely 8 or 10) branched rays, its spine usually as long as head or longer; posterior barbel 1 to $1\frac{1}{2}$ diameters of eye . . . . . 7. *B. bynni*, Forsk., p. 26.

Sc. 32–34 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$; dorsal with 9 branched rays, its spine longer than head; posterior barbel a little longer than eye . . . . . 8. *B. ruepolii*, Vincig., p. 23.

Sc. 30–35 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$; dorsal with 9 branched rays, its spine shorter than head; posterior barbel 1 (young) to 2 diameters of eye, much longer than anterior . . . . . 9. *B. erlangeri*, Blgr., p. 29.

Sc. 30 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3; dorsal with 8 branched rays, its spine as long as head; posterior barbel $1\frac{3}{5}$ diameters of eye, scarcely longer than anterior . . . . . 10. *B. kassamensis*, Blgr., p. 30.

Sc. 29–33 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3; dorsal with 9 (rarely 8) branched rays, its spine shorter than head in adult; posterior barbel $1\frac{3}{5}$–2 diameters of eye, as long as or a little longer than anterior . . . . . 11. *B. duchesnii*, Blgr., p. 31.

Sc. 27–28 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$; dorsal with 8 branched rays, its spine longer than head in adult . . . 12. *B. occidentalis*, Blgr., p. 32.

†† Depth of body equal to or a little greater than length of head, 3 to $4\frac{1}{6}$ times in total length; posterior barbel not longer than eye; spine of dorsal shorter than head.

Sc. 32–36 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3–$3\frac{1}{2}$; dorsal with 8 (rarely 9) branched rays; snout projecting considerably beyond mouth . . . . . 13. *B. lobogenys*, Blgr., p. 33.

§ Exceptionally 4 in *B. bynni*, 2 in *B. radcliffii*.

‖ Exceptionally 16 in *B. bynni*.

¶ Exceptionally $3\frac{1}{4}$ times in *B. margaritæ*.

Sc. 32–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, 2–2½; dorsal with 9 (rarely 8) branched rays; snout projecting very slightly beyond mouth . . . . . 14. *B. radcliffii*, Blgr., p. 34.

††† Depth of body equal to or a little greater than length of head, 3½ to 4½ times in total length; posterior barbel longer than eye in adult, but not more than 1½ diameters.

Sc. 33 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3; dorsal with 8 branched rays, its spine rather feeble, shorter than head; anal reaching caudal . . . . . 15. *B. marequensis*, A. Smith, [p. 36.

Sc. 34–35 $\frac{6\frac{1}{2}}{5\frac{1}{2}}$, 3; dorsal with 9 branched rays, its spine very strong, shorter than head; anal reaching or nearly reaching caudal. . 16. *B. altianalis*, Blgr., p. 36.

Sc. 30 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 2½; dorsal with 9 branched rays, its spine very strong, at least as long as head; anal not reaching caudal. . . . . 17. *B. gananensis*, Vincig., p. 37.

Sc. 31–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, 2½–3; dorsal with 8 (rarely 9) branched rays, its spine very strong, shorter than head; anal not reaching caudal . . . 18. *B. oreas*, Blgr., p. 38.

Sc. 30–33 $\frac{5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, 2½; dorsal with 9 (rarely 8) branched rays, its spine very strong, shorter than head; lips strongly developed . . . 19. *B. margaritæ*, Blgr., p. 39.

Sc. 28–30 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 2½; dorsal with 9 branched rays, its spine very strong, shorter than head; depth of body a little greater than length of head . 20. *B. gudaricus*, Blgr., p. 40.

†††† Depth of body equal to or a little greater than length of head, 3½ to 4 times in total length; posterior barbel at least 1⅔ diameters of eye in adult (at least 1⅓ in young); spine of dorsal shorter than head.

Sc. 35 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3; dorsal with 8 branched rays; lower lip produced into a subtriangular median lobe . . . . . 21. *B. mento*, Blgr., p. 41.

Sc. 27–32 $\frac{4\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, 2½–3; dorsal with 8 branched rays . . . . . 22. *B. reinii*, Gthr., p. 42.

Sc. 27–30 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2½–3; dorsal with 9 branched rays. 23. *B. batesii*, Blgr., p. 43.

** Interorbital width more than three times in length of head; depth of body equal to or a little greater than length of head 3½–4½ times in total length.

† No subtriangular dermal lobe above the mouth.

Sc. 31 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 2½; spine of dorsal a little shorter than head; barbels equal, more than 2 diameters of eye . . . . . 24. *B. eumystus*, Blgr., p. 44.

Sc. 29–34 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3; spine of dorsal shorter than head; barbels subequal, $1\frac{1}{3}$ to 2 diameters of eye . . . . . 25. *B. gregorii*, Blgr., p. 45.

Sc. 32–34 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, 3; spine of dorsal shorter than head; posterior barbel longer than anterior and 2 diameters of eye; dorsal originating a little in advance of ventral . . . . . 26. *B. hursensis*, Blgr., p. 46.

Sc. 31–37 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3; spine of dorsal shorter than head; barbels subequal, 1–$1\frac{1}{4}$ diameters of eye . . . . . 27. *B. affinis*, Rüpp., p. 47.

Sc. 31–33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3; spine of dorsal shorter than head; posterior barbel longer than anterior, as long as eye . . . . . 28. *B. brevibarbis*, Blgr., p. 49.

Sc. 30–35 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, 3; spine of dorsal as long as or a little longer than head; barbels subequal, not longer than eye . . . . . 29. *B. leptosoma*, Blgr., p. 50.

†† A subtriangular dermal lobe above the upper jaw; spine of dorsal fin shorter than head in adult.

Sc. 31–35 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3; posterior barbel $1\frac{1}{5}$–$1\frac{1}{2}$ diameters of eye; lips not produced into long median lobes, but snout with a triangular dermal flap . . . . . 30. *B. degeni*, Blgr., p. 50.

Sc. 29–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3; posterior barbel 1–$1\frac{3}{4}$ diameters of eye; both lips produced into long subtriangular dermal lobes . . . . 31. *B. nedgia*, Rüpp., p. 51.

δ. 25–30 scales in lateral line, $1\frac{1}{2}$–2 between lateral line and ventral; 10–12 round caudal peduncle; dorsal with 9 or 10 (rarely 8) branched rays.

* Depth of body equal to or a little greater than length of head; spine of dorsal shorter than head.

† Depth of body $3\frac{1}{2}$–4 times in total length.

Sc. 30 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2; posterior barbel a little longer than eye; caudal peduncle about twice as long as deep . . . . . 32. *B. compinei*, Sauv., p. 53.

Sc. 26–27 $\frac{4\frac{1}{2}}{3\frac{1}{2}}$, 2; posterior barbel $1\frac{1}{3}$ diameters of eye; caudal peduncle $1\frac{1}{3}$–$1\frac{1}{2}$ times as long as deep . . . . . 33. *B. linnelli*, Lönnb., p. 53.

†† Depth of body 3–$3\frac{1}{2}$ times in total length.

Sc. 25–27 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2; posterior barbel $1\frac{1}{3}$ to $1\frac{1}{2}$ diameters of eye in adult . . . . . 34. *B. krapfi*, Blgr., p. 54.

Sc. 28–29 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}}$, 2 ; posterior barbel but little longer than eye ; both lips produced into long triangular lobes . . . . . 35. *B. labiatus*, Blgr., p. 55.

** Depth of body much greater than length of head.

Sc. 28–29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 ; posterior barbel $1\frac{2}{3}$–$1\frac{3}{4}$ diameters of eye ; depth of body $3\frac{1}{4}$–$3\frac{1}{2}$ times in total length . . . . . 36. *B. alticola*, Blgr., p. 55.

Sc. 24–29 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}}$, 2 ; posterior barbel 1–$1\frac{1}{2}$ diameters of eye ; depth of body $2\frac{2}{3}$–$3\frac{1}{2}$ times in total length . . . . . 37. *B. hindii*, Blgr., p. 56.

Sc. 25–28 $\frac{4\frac{1}{2}}{3\frac{1}{2}-4\frac{1}{2}}$, $1\frac{1}{2}$–2 ; posterior barbel $1\frac{2}{3}$–2 diameters of eye ; depth of body $2\frac{1}{2}$–3 times in total length . . . . . 38. *B. tanensis*, Gthr., p. 58.

b. Lower lip interrupted on the chin ; mouth inferior or subinferior.

α. Lower jaw with rounded edge.

* Depth of body $3\frac{1}{5}$–4 times in total length.

† Posterior barbel not twice as long as eye ; dorsal with 8–9 branched rays.

‡ Interorbital width $2\frac{2}{3}$–$3\frac{1}{4}$ times in length of head, width of mouth 3–5 times.

Sc. 36–37 $\frac{7\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$; posterior barbel slightly longer than eye; depth of body $3\frac{2}{3}$–$4\frac{1}{2}$ times in total length, length of head 4–$4\frac{1}{2}$ times ; snout rather pointed . . . . . 39. *B. fergussonii*, Blgr., p. 59.

Sc. 30–38 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 ; posterior barbel 1–$1\frac{2}{3}$ diameters of eye ; depth of body $3\frac{1}{5}$–4 times in total length, length of head $3\frac{3}{4}$–$4\frac{1}{2}$ times. 40. *B. intermedius*, Rüpp., p. 59.

Sc. 34 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3 ; posterior barbel $1\frac{1}{2}$ diameters of eye; depth of body equal to length of head, $3\frac{1}{2}$ times in total length . . . . . 41. *B. harringtonii*, Blgr., p. 61.

Sc. 31–34 $\frac{5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 ; posterior barbel 1–$1\frac{1}{4}$ diameters of eye ; depth of body equal to length of head, $3\frac{1}{2}$–$3\frac{3}{4}$ times in total length . 42. *B. jarsinus*, Blgr., p. 62.

Sc. 30 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3 ; posterior barbel $\frac{3}{4}$ diameter of eye; depth of body $3\frac{1}{2}$ times in total length, length of head 4 times . . . . . 43. *B. ilgi*, Pellegr., p. 63.

‡‡ Interorbital width 2–$2\frac{1}{2}$ times in length of head.

Sc. 35 $\frac{6\frac{1}{2}}{5\frac{1}{2}}$, 3 ; posterior barbel a little shorter than eye ; width of mouth 4 times in length of head . . . . . 44. *B. eduardianus*, Blgr., p. 63

Sc. 30–41 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, $2\frac{1}{2}$–3; posterior barbel at least as long as eye; width of mouth $2\frac{1}{3}$–3 times in length of head . . . . . 45. *B. eurystomus*, Keilh., p. 64.

†† Posterior barbel twice as long as eye; dorsal with 10 branched rays.

Sc. 33 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3; depth of body equal to length of head, $3\frac{1}{2}$–$3\frac{3}{4}$ times in total length . . . . 46. *B. zuaicus*, Blgr., p. 64.

** Depth of body $2\frac{2}{3}$–3 times in total length, much greater than length of head.

Sc. 31–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3; posterior barbel $1\frac{1}{2}$–$1\frac{3}{4}$ diameters of eye; dorsal with 8–9 branched rays . . . . . 47. *B. surkis*, Rüpp., p. 65.

Sc. 28 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$; posterior barbel twice as long as eye; dorsal with 10 branched rays . . . 48. *B. mathoiæ*, Blgr., p. 66.

Sc. 29 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$; posterior barbel $\frac{2}{3}$ diameter of eye; dorsal with 9 branched rays . . . 49. *B. meneliki*, Pellegr., p. 67.

β. Lower jaw with angular edge.

* Interorbital width $3\frac{1}{3}$–$3\frac{1}{2}$ times in length of head; dorsal with 8–9 branched rays.

Sc. 30–33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 2–$2\frac{1}{2}$; posterior barbel $1\frac{1}{5}$–$1\frac{3}{5}$ diameters of eye . . . . . 50. *B. macmillani*, Blgr., p. 67.

** Interorbital width $2\frac{1}{2}$–3 times in length of head; dorsal with 9–10 branched rays.

Sc. 33–34 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3; posterior barbel not longer than eye; width of mouth $2\frac{1}{3}$–3 times in length of head; spine of dorsal $\frac{2}{3}$ to once length of head . . . . . 51. *B. plagiostomus*, Blgr., p. 68.

Sc. 30 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$; posterior barbel a little longer than eye; width of mouth $2\frac{2}{3}$ times in length of head; spine of dorsal $\frac{1}{2}$ length of head . 52. *B. bingeri*, Pellegr., p. 69.

Sc. 28–30 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 2–$2\frac{1}{2}$; posterior barbel $1\frac{1}{3}$–$1\frac{1}{2}$ diameters of eye; width of mouth $3\frac{1}{2}$–4 times in length of head; spine of dorsal $\frac{2}{3}$–$\frac{3}{4}$ length of head . . . . . 53. *B. bottegi*, Blgr., p. 70.

Sc. 25–30 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2; posterior barbel not longer than eye; width of mouth $3\frac{1}{2}$–4 times in length of head; spine of dorsal as long as head . . . . . 54. *B. perplexicans*, Blgr., p. 71.

*** Interorbital width 3 times in length of head; dorsal with 8 branched rays. [p. 72.

Sc. 28–29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2; posterior barbel as long as eye . 55. *B. pagenstecheri*, J. G. Fisch.

c. Lower lip interrupted on the chin ; mouth terminal ; dorsal with 8–9 branched rays, its spine shorter than head.

Sc. 37–40 $\frac{6\frac{1}{2}-7\frac{1}{2}}{6\frac{1}{2}}$, 3–$3\frac{1}{2}$; posterior barbel $\frac{1}{3}$–$\frac{1}{2}$ diameter of eye ; interorbital width $3\frac{2}{3}$–4 times in length of head . . . . . 56. *B. rhoadesii*, Blgr., p. 72.

Sc. 35–37 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 3 ; posterior barbel $1\frac{1}{5}$–$1\frac{2}{5}$ diameters of eye ; interorbital width $2\frac{3}{4}$–3 times in length of head ; depth of body exceeding length of head . . . . . 57. *B. platystomus*, Blgr., p. 73.

Sc. 31 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$; posterior barbel $1\frac{1}{2}$ diameters of eye ; interorbital width 4 times in length of head ; depth of body not exceeding length of head . . . . . 58. *B. zaphiri*, Blgr., p. 74.

Sc. 32–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 ; posterior barbel not longer than eye ; depth of body not exceeding length of head . . . . . 59. *B. gorguari*, Rüpp., p. 75.

Sc. 26–27 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 ; posterior barbel about $\frac{2}{3}$ diameter of eye ; interorbital width 3 times in length of head . . . . . 60. *B. oxyrhynchus*, Pfeff., p. 76.

2. Base of ventral below middle of base of dorsal.

a. Lower lip interrupted on the chin ; lower jaw without angular edge.

Sc. 40 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, $3\frac{1}{2}$, 16; dorsal with 8 branched rays; posterior barbel as long as eye . . . . . 61. *B. platyrhinus*, Blgr., p. 76.

b. Lower lip restricted to the sides ; lower jaw with angular edge.

Sc. 36–40 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, 4 ; dorsal with 9 branched rays ; posterior barbel not quite $\frac{1}{2}$ diameter of eye . . . . . 62. *B. nyassæ*, Keilh., p. 77.

Sc. 37 $\frac{6\frac{1}{2}}{5\frac{1}{2}}$, 3, 14; dorsal with 8 branched rays ; posterior barbel as long as eye . . . . . 63. *B. elephantis*, Blgr., p. 78.

Sc. 29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$, 12 ; dorsal with 9 branched rays ; posterior barbel about $\frac{1}{2}$ diameter of eye; caudal peduncle $1\frac{3}{4}$ times as long as deep . 64. *B. sector*, Blgr., p. 78.

Sc. 27 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2, 12 ; dorsal with 10 branched rays ; posterior barbel $\frac{1}{2}$ diameter of eye ; caudal peduncle slightly longer than deep . . . 65. *B. micronema*, Blgr., p. 79.

c. Lower lip continuous across the chin, forming a more or less developed mental lobe.

Sc. 29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2, 12 ; dorsal with 9 branched rays ; posterior barbel $\frac{2}{3}$–$\frac{3}{4}$ diameter of eye . . 66. *B. brucii*, Blgr., p. 80.

B. Last simple dorsal ray more or less enlarged, ossified at least in its basal half, forming a more or less strong spine; anal with 6 (rarely 7) branched rays.

1. Lower jaw with rounded or blunt edge.

Sc. 32–35 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3; spine of dorsal very strong, at least $\frac{2}{3}$ length of head, usually as long as head; posterior barbel $1\frac{1}{2}$–2 diameters of eye in adult; anal not reaching caudal . . . . . 67. *B. harterti*, Gthr., p. 81.

Sc. 32–35 $\frac{5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3; spine of dorsal moderately strong, $\frac{2}{3}$ length of head; posterior barbel $\frac{2}{3}$–$\frac{3}{4}$ diameter of eye; anal not quite reaching caudal . . . . . 68. *B. paytonii*, Blgr., p. 82.

Sc. 31–35 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 2–$2\frac{1}{2}$; spine of dorsal very strong, $\frac{2}{3}$–$\frac{3}{4}$ length of head; posterior barbel $\frac{2}{3}$–1 diameter of eye; anal reaching caudal . . 69. *B. rothschildi*, Gthr., p. 83.

Sc. 31–33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 2–$2\frac{1}{2}$; spine of dorsal strong, $\frac{2}{3}$–$\frac{3}{4}$ length of head; posterior barbel 1–$1\frac{1}{4}$ diameters of eye; anal reaching caudal. . . 70. *B. riggenbachi*, Gthr., p. 84.

Sc. 30–33 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3; spine of dorsal rather feeble, $\frac{1}{2}$–$\frac{2}{3}$ length of head; posterior barbel $\frac{3}{4}$–1 diameter of eye; anal reaching caudal. 71. *B. fritschii*, Gthr., p. 85.

2. Lower jaw with sharp edge; spine of dorsal feeble, $\frac{1}{2}$–$\frac{2}{3}$ length of head; posterior barbel shorter than eye.

Sc. 32–35 $\frac{6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3; anal reaching caudal . . 72. *B. waldoi*, Blgr., p. 86.

Sc. 35–36 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$; anal not reaching caudal . . 73. *B. atlanticus*, Blgr., p. 87.

C. Last simple ray of dorsal not enlarged, or segmented down to its basal third; anal with 5 branched rays.

1. Snout projecting more or less beyond mouth.

a. Dorsal originating above ventral; posterior barbel as long as eye, or slightly longer or shorter.

Sc. 42 $\frac{6\frac{1}{2}}{7\frac{1}{2}}$, 4, 14; lower lip continuous across chin, produced into a long triangular lobe . . . 74. *B. gilchristi*, Blgr., p. 88.

Sc. 33–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$, 14–16; lower lip continuous across chin . . . . . 75. *B. bowkeri*, Blgr., p. 89.

Sc. 34–37 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$, 16; lower lip not extending across chin; lower jaw with a sharp edge . 76. *B. aureus*, Cope, p. 90.

b. Dorsal originating in advance of ventral.

α. Posterior barbel as long as eye or slightly longer.

Sc. 34–38 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3, 12–14; dorsal with 9 branched rays; lower lip not extending

across chin ; lower jaw with angular edge ; caudal peduncle $1\frac{3}{4}$ times as long as deep . 77. *B. johnstonii*, Blgr., p. 90.

Sc. 32–34 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3, 12; dorsal with 9 branched rays ; lips produced into triangular lobes ; caudal peduncle about $1\frac{1}{3}$ times as long as deep . . . . . 78. *B. zambesensis*, Peters, p. 91.

Sc. 32–33 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 2, 14 ; dorsal with 8 branched rays ; lips produced into triangular lobes ; caudal peduncle $1\frac{1}{3}$ times as long as deep . 79. *B. lobochilus*, Blgr., p. 92.

β. Posterior barbel $\frac{1}{2}$–$\frac{4}{5}$ diameter of eye.

* Lower lip continuous across chin ; dorsal with 9–10 branched rays.

Sc. 30–32 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2, 12 ; lips produced into triangular lobes ; caudal peduncle $1\frac{1}{3}$ times as long as deep . . . . . 80. *B. chilotes*, Blgr., p. 93.

Sc. 26–28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2, 12 ; caudal peduncle a little longer than deep . . . . . 81. *B. caudovittatus*, Blgr., p. 94.

** Lower lip not extending across chin ; dorsal with 8–9 branched rays.

† Lower jaw with angular edge.

Sc. 30–32 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3, 12 ; caudal peduncle $1\frac{1}{3}$–$1\frac{1}{2}$ times as long as deep . . . . . 82. *B. rhodesianus*, Blgr., p. 95.

Sc. 30–31 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$, 12 ; caudal peduncle not longer than deep . . . . . 83. *B. victoriæ*, Blgr., p. 96.

†† Lower jaw without angular edge.

Sc. 34 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$, 12 ; edge of dorsal straight ; caudal peduncle $1\frac{1}{4}$ times as long as deep . 84. *B. fairbairnii*, Blgr., p. 97.

Sc. 32 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2, 12 ; edge of dorsal concave ; caudal peduncle $1\frac{1}{4}$ times as long as deep . . . 85. *B. codringtonii*, Blgr., p. 98.

*** Lower lip not extending across chin; dorsal with 10–11 branched rays.

Sc. 29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$, 12; edge of dorsal concave ; caudal peduncle $1\frac{1}{2}$ times as long as deep . . . 86. *B. wurtzi*, Pellegr., p. 99.

Sc. 25–27 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2, 12 ; edge of dorsal concave ; caudal peduncle a little longer than deep . 87. *B. macrolepis*, Pfeff., p. 99.

Sc. 24 $\frac{4\frac{1}{2}}{3\frac{1}{2}}$, 2, 12 ; edge of dorsal convex in front ; caudal peduncle as long as deep . . . . 88. *B. lagoensis*, Gthr., p. 100.

γ. Posterior barbel $\frac{1}{3}$ diameter of eye ; lower lip continuous across chin.

Sc. 28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2, 12 . . . . . 89. *B. altidorsalis*, Blgr., p. 101.

2. Lower jaw projecting beyond snout.

Sc. 32–35 $\frac{5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$, 12 . . . . . 90. *B. progenys*, Blgr., p. 102.

II. Exposed surface of scales with radiating canals (see fig. 1, p. 2, B, C), which, as a rule, are very numerous in the species with small scales, and less numerous, or even restricted to a few, in those with large scales * ; dorsal fin with 6 to 8 (rarely 9) branched rays, anal with 5, rarely 6 †.

A. Last simple dorsal ray enlarged, bony, forming a strong spine which is not serrated behind ; two barbels on each side.

1. Depth of body 3–4 times in total length ; snout not longer than eye.

Sc. 30–35 (rarely 36) $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, 3–4 ; dorsal with 8 (very rarely 7) branched rays, its spine not longer than head . . . . . 91. *B. trimaculatus*, Peters, [p. 103.

Sc. 36–39 $\frac{5\frac{1}{2}-6\frac{1}{2}}{6\frac{1}{2}}$, 4 ; dorsal with 8 branched rays, its spine not longer than head . . . . . 92. *B. nummifer*, Blgr., p. 105.

Sc. 36–37 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, $3\frac{1}{2}$–4 ; dorsal with 7 branched rays, its spine a little longer than head . . . . 93. *B. jacksonii*, Gthr., p. 106.

2. Depth of body $4\frac{1}{3}$ times in total length ; snout a little longer than eye.

Sc. 37 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, $3\frac{1}{2}$ . . . . . 94. *B. pappenheimi*, Blgr., p. 107.

B. Last simple dorsal ray more or less enlarged, bony, at least in the basal third, and serrated behind ‡ ; two barbels on each side.

1. 40–51 scales in lateral line, $7\frac{1}{2}$–$10\frac{1}{2}$ between origin of dorsal and lateral line.

a. Base of ventral entirely below dorsal.

Sc. 48–51 $\frac{8\frac{1}{2}-10\frac{1}{2}}{8\frac{1}{2}-11\frac{1}{2}}$, $5\frac{1}{2}$–7, 20–22 ; last simple ray of dorsal very strong, strongly serrated, serrated part $\frac{1}{2}$–$\frac{2}{3}$ length of head ; interorbital width $2\frac{3}{4}$–3 times in length of head . 95. *B. biscarensis*, Blgr., p. 108.

Sc. 40–47 $\frac{8\frac{1}{2}-9\frac{1}{2}}{8\frac{1}{2}-9\frac{1}{2}}$, 4–5, 18–20 ; last simple ray of dorsal very strong, strongly serrated, serrated part $\frac{3}{5}$–$\frac{3}{4}$ length of head ; interorbital width $2\frac{2}{3}$–3 times in length of head . 96. *B. callensis*, C. & V., p. 109.

Sc. 40–45 $\frac{7\frac{1}{2}-8\frac{1}{2}}{7\frac{1}{2}-9\frac{1}{2}}$, 4–5, 18–20 ; last simple ray of dorsal moderately strong, more or less strongly serrated, serrated part $\frac{2}{5}$–$\frac{1}{2}$ length of head ; interorbital width $2\frac{1}{2}$–3 times in length of head . . . . . 97. *B. setivimensis*, C. & V., [p. 110.

* In the former (B. 1 of this synopsis), as in *B. fluviatilis*, the vertebræ number 40 to 49 (22–28+17–21) ; in the latter they number only 33 to 38 (17–21+13–18).

† In *B. capensis*, p. 14.

‡ Except in aberrant specimens of *B. holotænia*, p. 16.

Sc. 41–46 $\frac{8\frac{1}{2}-9\frac{1}{2}}{7\frac{1}{2}-9\frac{1}{2}}$, 4, 18–20 ; last simple ray of dorsal rather feeble, feebly serrated, serrated part $\frac{1}{4}$–$\frac{1}{3}$ length of head ; interorbital width $2\frac{1}{3}$–$2\frac{1}{2}$ times in length of head . . 98. *B. ksibi,* Blgr., p. 111.

b. Base of ventral at least partly anterior to dorsal ; last simple ray of dorsal strongly serrated.

Sc. 44–47 $\frac{7\frac{1}{2}-8\frac{1}{2}}{8\frac{1}{2}-9\frac{1}{2}}$, 5–6, 18–20 ; base of ventral partly below dorsal ; snout rounded, at least 3 times in length of head ; mouth moderate, inferior . . . . . 99. *B. antinorii,* Blgr., p. 112.

Sc. 46–50 $\frac{8\frac{1}{2}-9\frac{1}{2}}{8\frac{1}{2}-10\frac{1}{2}}$, 4–5, 20–22 ; base of ventral partly below dorsal; snout narrow and pointed, less than 3 times in length of head; mouth very narrow, inferior . . . . . 100. *B. nasus,* Gthr., p. 113.

Sc. 44–46 $\frac{7\frac{1}{2}-8\frac{1}{2}}{7\frac{1}{2}-8\frac{1}{2}}$, 4–5, 20 ; base of ventral entirely in advance of dorsal ; mouth terminal. 101. *B. serra,* Peters, p. 114.

2. 32–40 scales in lateral line, $5\frac{1}{2}$–$7\frac{1}{2}$ between origin of dorsal and lateral line ; posterior barbel not or but little longer than eye.

a. Base of ventral entirely in advance of dorsal.

Sc. 34–39 $\frac{6\frac{1}{2}-7\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, 3–4, 16–18 ; dorsal with 7 (rarely 8) soft rays . . . . . 102. *B. paludinosus,* Peters, p. 115.

Sc. 32–33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$, 14 ; dorsal with 7 branched rays ; length of head 4 times in total length . . . . . 103. *B. taitensis,* Gthr., p. 117.

Sc. 33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3, 14; dorsal with 8 branched rays; length of head 4–$4\frac{1}{2}$ times in total length . 104. *B. pfefferi,* Blgr., p. 117.

Sc. 33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 3, 14 ; dorsal with 8 branched rays ; length of head $3\frac{3}{4}$ times in total length . 105. *B. mattozi,* Guimar., p. 118.

b. Base of ventral entirely or partly below dorsal.

α. Caudal peduncle at least $1\frac{2}{3}$ times as long as deep.

Sc. 32–33 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3, 14 ; dorsal with 8 branched rays ; length of head 3–$3\frac{1}{5}$ times in total length . . . . . 106. *B. rapax,* Stdr., p. 119.

Sc. 32–35 $\frac{5\frac{1}{2}-6\frac{1}{2}}{6\frac{1}{2}}$, 3–$3\frac{1}{2}$, 12–14 ; dorsal with 7 branched rays ; length of head $3\frac{1}{2}$–$3\frac{2}{5}$ times in total length . . . . . 107. *B. thikensis,* Blgr., p. 120.

Sc. 35 $\frac{6\frac{1}{2}}{5\frac{1}{2}}$, 3, 16 ; dorsal with 7 branched rays; length of head 4 times in total length ; lateral line incomplete . . . . . 108. *B. pleurogramma,* Blgr., [p. 120.

Sc. 35–37 $\frac{6\frac{1}{2}-7\frac{1}{2}}{5\frac{1}{2}}$, 3–4, 14–16 ; dorsal with 7 branched rays ; length of head $3\frac{1}{2}$–4 times in total length . . . . . 109. *B. longicauda*, Blgr., p. 121.

β. Caudal peduncle $1\frac{1}{2}$ times as long as deep.

Sc. 37 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, 4, 16 . . . . . 110. *B. akakianus*, Blgr., p. 122.

c. Base of ventral below middle of dorsal.

Sc. 39–40 $\frac{5\frac{1}{2}-6\frac{1}{2}}{6\frac{1}{2}}$, 4, 16 ; anal with 6 branched rays . . . . . 111. *B. capensis*, A. Smith, p. 123.

3. 23–32 scales in lateral line, $4\frac{1}{2}$–$5\frac{1}{2}$ between origin of dorsal and lateral line.

a. Base of ventral entirely or partly in advance of dorsal ; dorsal with 7 branched rays (rarely 6).

α. Posterior barbel twice as long as eye in adult.

Sc. 26–30 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3, 12 ; base of ventral partly in advance of dorsal . . . . . 112. *B. serrifer*, Blgr., p. 124.

Sc. 27 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3, 12 ; base of ventral entirely in advance of dorsal . . . . . 113. *B. lumiensis*, Blgr., p. 125.

β. Posterior barbel not more than $1\frac{1}{2}$ diameters of eye.

* Caudal peduncle twice as long as deep.

Sc. 25–26 $\frac{5\frac{1}{2}}{6\frac{1}{2}}$, $2\frac{1}{2}$, 12–14 . . . . . 114. *B. minchini*, Blgr., p. 126.

** Caudal peduncle $1\frac{1}{2}$–$1\frac{2}{3}$ times as long as deep.

† 28–31 scales in lateral line ; depth of body $3\frac{1}{2}$–4 times in total length.

‡ Dorsal with 7 branched rays.

Sc. 28–29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 ; interorbital width 3 times in length of head ; base of ventral entirely in advance of dorsal . . . . . 115. *B. ansorgii*, Blgr., p. 126.

Sc. 31 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$; interorbital width 3 times in length of head ; base of ventral partly in advance of dorsal . . . . . 116. *B. tetraspilus*, Pfeff., p. 127.

Sc. 28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3 ; interorbital width twice in length of head ; base of ventral partly in advance of dorsal . . . . . 117. *B. laticeps*, Pfeff., p. 128.

‡‡ Dorsal with 6 branched rays.

Sc. 28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3 ; base of ventral partly in advance of dorsal . . . . . 118. *B. sexradiatus*, Blgr., p. 128.

†† 24–28 scales in lateral line ; depth of body 3–$3\frac{1}{2}$ times in total length ; base of ventral nearly entirely in advance of dorsal.

Sc. 26 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$; eye $4\frac{1}{2}$ times in length of head ; pectoral not quite reaching ventral . . . 119. *B. salmo*, Pfeff., p. 129

Sc. 25–26 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2–$2\frac{1}{2}$; eye 3–$3\frac{1}{2}$ times in length of head; pectoral reaching or nearly reaching ventral . . . . . 120. *B. kerstenii*, Peters, p. 130.

Sc. 24–28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2–$2\frac{1}{2}$; eye $3\frac{1}{3}$–4 times in length of head; pectoral not reaching ventral . 121. *B. eutænia*, Blgr., p. 131.

b. Base of ventral entirely below dorsal.

a. 28–33 scales in lateral line.

* Posterior barbel more than $1\frac{1}{2}$ diameters of eye and snout longer than eye in adult; dorsal with 7 branched rays.

Sc. 30–31 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 3; eye $5\frac{1}{4}$ times in length of head; depth of body $4\frac{1}{4}$ times in total length . . 122. *B. neumayeri*, Pfeff., p. 132.

Sc. 28–30 $\frac{4\frac{1}{2}}{5\frac{1}{2}}$, 3; eye 4–5 times in length of head; depth of body $3\frac{2}{3}$–4 times in total length; interorbital width $2\frac{1}{2}$–$2\frac{2}{3}$ times in length of head . . . . . 123. *B. nairobiensis*, Blgr., p. 132.

Sc. 28–32 $\frac{4\frac{1}{2}-5\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, 3–4; eye $3\frac{1}{2}$–$4\frac{1}{2}$ times in length of head; depth of body $3\frac{2}{3}$–4 times in total length; interorbital width 3 times in length of head . . . . . 124. *B. portali*, Blgr., p. 133.

** Posterior barbel 1 to $1\frac{1}{2}$ diameters of eye.

Sc. 28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3; eye $4\frac{1}{4}$–5 times in length of head, interorbital width $2\frac{1}{2}$–3 times; dorsal with 7 branched rays . . . . . 125. *B. carpio*, Pfeff., p. 134.

Sc. 28–30 $\frac{4\frac{1}{2}-5\frac{1}{2}}{5\frac{1}{2}}$, 3–$3\frac{1}{2}$; eye $3\frac{1}{2}$–4 times in length of head, interorbital width $2\frac{1}{2}$–$2\frac{2}{3}$ times; dorsal with 6–7 branched rays . . . . 126. *B. percivali*, Blgr., p. 135.

Sc. 29–31 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3; eye 3–$3\frac{1}{3}$ times in length of head, interorbital width $2\frac{1}{2}$–$2\frac{2}{3}$ times; dorsal with 7–8 branched rays . . . . 127. *B. zanzibaricus*, Peters, p. 136.

Sc. 29–33 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3; eye $3\frac{1}{2}$–4 times in length of head, interorbital width 3–$3\frac{1}{2}$ times; dorsal with 8 branched rays . . . . . 128. *B. argenteus*, Gthr., p. 136.

*** Posterior barbel $\frac{2}{3}$–$\frac{3}{4}$ diameter of eye.

Sc. 28–30 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$; eye $3\frac{1}{3}$–$3\frac{1}{2}$ times in length of head, interorbital width $2\frac{1}{2}$–3 times; dorsal with 7–8 branched rays . . . . 129. *B. wellmani*, Blgr., p. 137.

β. 22–27 scales in lateral line ; dorsal usually with 8 branched rays.

* Posterior barbel $1\frac{1}{3}$ to $1\frac{2}{3}$ diameters of eye ; caudal peduncle $1\frac{1}{3}$–$1\frac{1}{2}$ times as long as deep.

Sc. 25–27 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 ; depth of body 3–$3\frac{1}{2}$ times in total length ; eye 3–$3\frac{1}{2}$ times in length of head . . . . . 130. *B. kessleri*, Stdr., p. 138.

Sc. 22–26 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2–3 ; depth of body $2\frac{2}{3}$–$3\frac{1}{2}$ times in total length ; eye 3 (young)–4 times in length of head . . . . . 131. *B. holotænia*, Blgr., p. 139.

Sc 23 $\frac{4\frac{1}{2}}{3\frac{1}{2}}$, 2 ; depth of body $3\frac{1}{3}$ times in total length ; eye 3 times in length of head . . 132. *B. miolepis*, Blgr., p. 141.

** Posterior barbel $1\frac{1}{2}$–2 diameters of eye ; caudal peduncle not or but slightly longer than deep.

Sc. 23–26 $\frac{4\frac{1}{2}}{4\frac{1}{2}\text{–}5\frac{1}{2}}$, $2\frac{1}{2}$–3 ; depth of body $2\frac{1}{2}$–$2\frac{3}{4}$ times in total length ; eye 3–$3\frac{1}{3}$ times in length of head . . . . . 133. *B. guirali*, Thomin., p. 142.

C. Last simple ray of dorsal enlarged, bony, more or less distinctly serrated behind † ; a single barbel on each side.

1. Lateral line present.

Sc. 40 $\frac{7\frac{1}{2}}{6\frac{1}{2}}$, 4 ; dorsal with 8 branched rays, its spine strongly serrated . . . . . 134. *B. litamba*, Keilh., p. 143.

Sc. 33–36 $\frac{5\frac{1}{2}\text{–}6\frac{1}{2}}{5\frac{1}{2}\text{–}6\frac{1}{2}}$, 3–4 ; dorsal with 7 branched rays, its spine feebly serrated in its upper part only . . . . . 135. *B. trevelyani*, Gthr., p. 143.

2. No lateral line. [p. 144.

Sc. 25 ; dorsal with 7 branched rays . . . 136. *B. aplœurogramma*, Blgr.,

D. Last simple ray of dorsal not enlarged, or but feebly enlarged, not serrated ‡.

1. Two barbels on each side.

a. Dorsal with 7 branched rays ; 27–38 scales in lateral line ; caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep.

α. 3–$4\frac{1}{2}$ scales between lateral line and ventral ; lateral line complete.

* Base of ventral below anterior rays of dorsal.

Sc. 35–36 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, 4, 16 ; posterior barbel $\frac{2}{3}$ diameter of eye ; pectoral not reaching ventral . . 137. *B. amphigramma*, Blgr., [p. 145.

Sc. 34–38 $\frac{5\frac{1}{2}\text{–}6\frac{1}{2}}{6\frac{1}{2}}$, 4, 12 ; posterior barbel 1–$1\frac{1}{2}$ diameters of eye ; pectoral not reaching ventral . . . . . 138. *B. burchelli*, A. Smith, p. 146.

† The serration sometimes very indistinct in *B. trevelyani*, no. 135.

‡ See also *B. holotænia*, above, no. 131.

Sc. 32–33 $\frac{5\frac{1}{2}}{6\frac{1}{2}}$, 4–4$\frac{1}{2}$; posterior barbel a little longer than eye; pectoral reaching ventral. 139. *B. motebensis*, Stdr., p. 147.

Sc. 30–32 $\frac{4\frac{1}{2}}{5\frac{1}{2}}$, 3, 12 . . . . . 140. *B. burgi*, Blgr., p. 147.

** Base of ventral anterior to dorsal.

Sc. 30-36 $\frac{4\frac{1}{2}-5\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, 3$\frac{1}{2}$–4$\frac{1}{2}$ . . . . . 141. *B. vulneratus*, Casteln., p. 148.

Sc. 30 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3 . . . . . 142. *B. usambaræ*, Lönnb., p. 149.

β. 2$\frac{1}{2}$–3 scales between lateral line and ventral; lateral line incomplete, on 8–15 scales only. [p. 150.

Sc. 27–29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2$\frac{1}{2}$–3 . . . . . 143. *B. hemipleurogramma*, Blgr.,

γ. 1$\frac{1}{2}$–2$\frac{1}{2}$ scales between lateral line and ventral; lateral line complete.

Sc. 31–35 $\frac{5\frac{1}{2}}{3\frac{1}{2}-4\frac{1}{2}}$, 1$\frac{1}{2}$–2$\frac{1}{2}$; posterior barbel 1–1$\frac{1}{2}$ diameters of eye . . . . . 144. *B. gurneyi*, Gthr., p. 150.

Sc. 28 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2; posterior barbel $\frac{1}{3}$ of eye . . . 145. *B. banguelensis*, Blgr., p. 151.

b. Dorsal with 8 (rarely 7 or 9) branched rays; 21–33 scales in lateral line, 2–3 between lateral line and ventral.

α. Base of ventral below middle of dorsal.

Sc. 29–31 $\frac{4\frac{1}{2}-5\frac{1}{2}}{5\frac{1}{2}}$, 2$\frac{1}{2}$–3, 12; posterior barbel $\frac{1}{2}$–$\frac{2}{3}$ diameter of eye; snout projecting very slightly beyond mouth . . . . . 146. *B. inermis*, Peters, p. 152.

Sc. 27–30 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3, 12; posterior barbel about $\frac{1}{2}$ diameter of eye; snout projecting strongly beyond mouth . . . . . [p. 153. 147. *B. quadripunctatus*, Pfeff.,

Sc. 25–29 $\frac{3\frac{1}{2}-4\frac{1}{2}}{3\frac{1}{2}}$, 2$\frac{1}{2}$, 12; posterior barbel as long as eye; snout projecting very slightly beyond mouth . . . . . 148. *B. nigeriensis*, Blgr., p. 154.

Sc. 25–26 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2, 10; posterior barbel as long as eye; snout projecting strongly beyond mouth . . . . . 149. *B. humeralis*, Blgr., p. 154.

β. Base of ventral below anterior rays of dorsal; posterior barbel at least $\frac{2}{3}$ diameter of eye.

* Pectoral reaching or nearly reaching ventral; posterior barbel $\frac{3}{5}$–1 diameter of eye.

Sc. 26–27 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2; depth of body equal to length of head, 3$\frac{2}{3}$ times in total length; posterior barbel a little shorter than eye . . 150. *B. radiatus*, Peters, p. 155.

Sc. 22–25 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2–2$\frac{1}{2}$, 12; depth of body greater than length of head, 2$\frac{3}{4}$–3 times in total length; posterior barbel as long as or a little shorter than eye . . . . . 151. *B. ablabes*, Blkr., p. 156.

Sc. 23–25 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2, 10–12; depth of body equal or nearly equal to length of head, $3\frac{1}{2}$–4 times in total length; posterior barbel shorter than eye . . . . . 152. *B. deserti*, Pellegr., p. 157.

** Pectoral not reaching ventral.

† 25–33 scales in lateral line; caudal peduncle twice, or nearly twice, as long as deep.

Sc. 30–33 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3, 12; posterior barbel 1–$1\frac{1}{4}$ diameters of eye; depth of body 3–$3\frac{2}{5}$ times in total length . . . . . 153. *B. unitæniatus*, Gthr., p. 158.

Sc. 30–32 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3, 12; posterior barbel $1\frac{1}{2}$–2 diameters of eye . . . . . 154. *B. lineomaculatus*, Blgr., [p. 159.

Sc. 29–33 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$, 12; posterior barbel 1–$1\frac{1}{4}$ diameters of eye; depth of body 4–$4\frac{1}{4}$ times in total length. . . . . 155. *B. innocens*, Pfeff., p. 160.

Sc. 29–31 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2, 12–14; posterior barbel $\frac{2}{3}$–$\frac{3}{4}$ diameter of eye . . . . . 156. *B. humilis*, Blgr., p. 160.

Sc. 25 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2, 12; posterior barbel $1\frac{1}{4}$ diameters of eye . . . . . 157. *B. fasciolatus*, Gthr., p. 161.

†† 21–30 scales in lateral line; posterior barbel $1\frac{1}{2}$–2 diameters of eye; caudal peduncle usually not twice as long as deep; mouth inferior.

Sc. 28–30 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3, 12; last simple ray of dorsal not thicker than first branched ray; posterior barbel not twice as long eye . . 158. *B. chlorotænia*, Blgr., p. 162.

Sc. 25–28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3, 10–12; last simple ray of dorsal not thicker than first branched ray; posterior barbel twice as long as eye. 159. *B. trispilus*, Blkr., p. 163.

Sc. 21–22 $\frac{3\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3, 12; last simple ray of dorsal thicker than first branched ray . . . . 160. *B. walkeri*, Blgr., p. 164.

Sc. 24–27 $\frac{3\frac{1}{2}-4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3, 12; last simple ray of dorsal thicker than first branched ray . . 161. *B. taniurus*, Blgr., p. 165.

††† 21–26 scales in lateral line; posterior barbel $\frac{2}{3}$–$1\frac{1}{2}$ diameters of eye; caudal peduncle not twice as long as deep.

Sc. 21–25 $\frac{3\frac{1}{2}-4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3, 12; posterior barbel 1–$1\frac{1}{2}$ diameters of eye; mouth inferior . 162. *B. camptacanthus*, Blkr., [p. 166.

Sc. 23–26 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2–$2\frac{1}{2}$, 10–12; posterior barbel $\frac{2}{3}$–$\frac{3}{4}$ diameter of eye; mouth terminal . . 163. *B. callipterus*, Blgr., p. 167.

Sc. 24–26 $\frac{4\frac{1}{2}}{3\frac{1}{2}-4\frac{1}{2}}$, 2, 12; posterior barbel 1–$1\frac{1}{2}$ diameters of eye; mouth terminal . . . 164. *B. werneri*, Blgr., p. 168.

†††† 26–32 scales in lateral line; posterior barbel $\frac{3}{4}$–$1\frac{1}{2}$ diameters of eye; caudal peduncle not twice as long as deep; mouth terminal or subinferior.

Sc. 31–33 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2; posterior barbel a little longer than eye; depth of body $3\frac{3}{4}$–$4\frac{1}{2}$ times in total length . . . . . 165. *B. arcislongæ*, Keilh., p. 169.

Sc. 29–31 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3, 12; posterior barbel $1\frac{1}{3}$–$1\frac{1}{2}$ diameters of eye; depth of body 3–$3\frac{1}{2}$ times in total length . . . . . 166. *B. viviparus*, M. Web., p. 170.

Sc. 28–32 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, 2–3, 12–14; posterior barbel $\frac{5}{6}$–$1\frac{1}{5}$ diameters of eye; depth of body $2\frac{3}{4}$–$3\frac{1}{3}$ times in total length . . . . . 167. *B. perince*, Rüpp., p. 170.

Sc. 27–28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2, 12; posterior barbel $1\frac{1}{5}$ diameters of eye; depth of body $3\frac{1}{2}$ times in total length . . . . . 168. *B. trispilopleura*, Blgr., [p. 172.

Sc. 26–30 $\frac{3\frac{1}{2}-4\frac{1}{2}}{3\frac{1}{2}}$, 2–$2\frac{1}{2}$, 12; posterior barbel $\frac{3}{4}$–1 diameter of eye; depth of body 3–$3\frac{2}{3}$ times in total length . . . . . 169. *B. neglectus*, Blgr., p. 173.

γ. Base of ventral below anterior rays of dorsal; posterior barbel not more than $\frac{3}{5}$ diameter of eye.

Sc. 29 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2, 12; depth of body $3\frac{2}{3}$ times in total length . . . . . 170. *B. doggetti*, Blgr., p. 174.

Sc. 23–25 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2, 8; depth of body $2\frac{3}{4}$–3 times in total length . . . . . 171. *B. congicus*, Blgr., p. 174.

Sc. 22–23 $\frac{2\frac{1}{2}}{3\frac{1}{2}}$, 2, 8; depth of body $3\frac{1}{3}$ times in total length . . . . . 172. *B. pleuropholis* Blgr., p. 175.

2. A single barbel on each side *.

a. Dorsal with 7 (rarely 6) branched rays.

Sc. 37–42 $\frac{8\frac{1}{2}}{8\frac{1}{2}-9\frac{1}{2}}$, 5–6, 18–20; mouth inferior . 173. *B. asper*, Blgr., p. 176.

Sc. 32–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{6\frac{1}{2}}$, $3\frac{1}{2}$–$4\frac{1}{2}$, 12–14; mouth terminal or subinferior . . . . . 174. *B. anoplus*, M. Web., p. 177.

Sc. 28–31 $\frac{4\frac{1}{2}}{5\frac{1}{2}}$, 3, 12; mouth inferior . . . . 175. *B. afer*, Peters, p. 778.

b. Dorsal with 8 branched rays; barbel minute, if present.

Sc. 29–32 $\frac{5\frac{1}{2}}{3\frac{1}{2}}$, 1–$1\frac{1}{2}$, 10; mouth terminal . . 176. *B. magdalenæ*, Blgr., p. 179.

Sc. 27–28 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2, 12; mouth inferior . . . . 177. *B. rogersi*, Blgr., p. 180.

* Occasionally absent (*B. magdalenæ*, *B. rogersi*).

3. No barbels.

a. Lateral line complete ; dorsal with 8 branched rays.

α. Mouth terminal or subinferior.

Sc. 26–28 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2–2½, 12 ; depth of body 3 times in total length ; caudal peduncle 1½–1⅔ times as long as deep . . . . . 178. *B. brazzæ*, Pellegr., p. 180.

Sc. 24–27 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2½, 12 ; depth of body 2⅓–2¾ times in total length ; caudal peduncle not or but slightly longer than deep . . 179. *B. aspilus*, Blgr., p. 181.

Sc. 22–25 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2–2½, 8–10 ; depth of body 2⅔–3⅓ times in total length ; caudal peduncle not or but slightly longer than deep . . . . . 180. *B. anema*, Blgr., p. 182.

β. Mouth inferior.

Sc. 23 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2½, 8 ; depth of body 3¼ times in total length ; caudal peduncle 1½ times as long as deep . . . . . 181. *B. trispilomimus*, Blgr., [p. 183.

b. Lateral line absent or reduced to a few tubules ; mouth terminal or subinferior.

α. Dorsal with 7 branched rays ; pectoral not reaching ventral.

Sc. 22–24 $\frac{5\frac{1}{2}}{3\frac{1}{2}}$, 1½, 10 ; origin of dorsal midway between end of snout and caudal . . . 182. *B. salessii*, Pellegr., p. 183.

Sc. 20–23 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2, 8 ; origin of dorsal nearer end of snout than caudal . . . . . 183. *B. jæ*, Blgr., p. 184.

β. Dorsal with 8 branched rays ; pectoral reaching or nearly reaching ventral. [p. 185.

Sc. 22–25 $\frac{3\frac{1}{2}-4\frac{1}{2}}{2\frac{1}{2}-3\frac{1}{2}}$, 1½, 9–11 . . . . . 184. *B. stigmatopygus*, Blgr.,

Sc. 19–21 $\frac{3\frac{1}{2}}{2\frac{1}{2}}$, 1½, 9 . . . . . 185. *B. pumilus*, Blgr., p. 186.

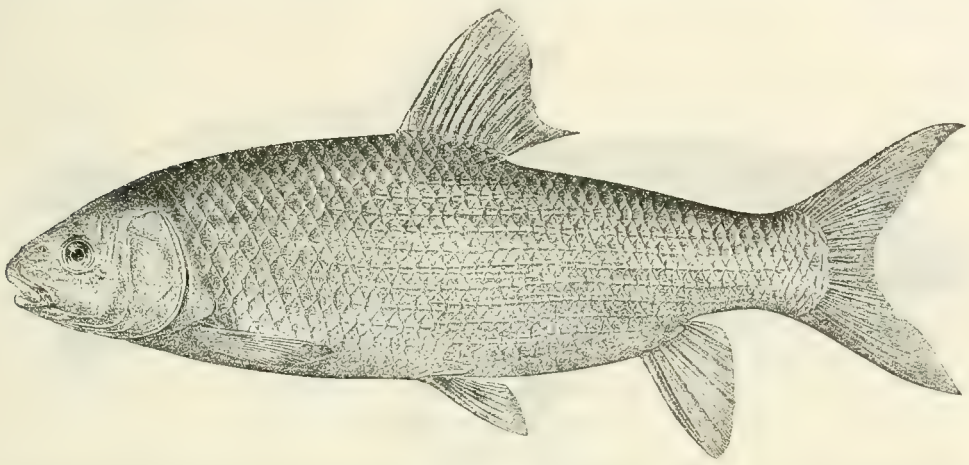
1. BARBUS TROPIDOLEPIS.

Boulenger. Ann. Mus. Congo, Zool. i. p. 133, pl. xlix. (1900), Poiss. Bass. Congo, p. 228 (1901), and Tr. Zool. Soc. xvi. 1901, p. 145, pl. xiii. fig. 2, and xvii. 1906, p. 549.

Depth of body 3 to 3⅓ times in total length, length of head 4 to 4½ times. Snout rounded, strongly projecting beyond mouth, 3 to 3½ times in length of head ; eye 3 (young) to 5½ times in length of head, interorbital width 2½ to 2¾ times ; mouth inferior, its width 3½ to 4 times in length of head ; lips moderately developed, continuous across the chin ; anterior barbel usually absent, posterior very short. Dorsal III 9,

equally distant from occiput and from root of caudal, border concave; last simple ray very strong, long, not serrated, $\frac{2}{3}$ to once length of head. Anal II 5, not reaching caudal. Pectoral about $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal

Fig. 2.



Barbus tropidolepis.
Type (A. M. C.). $\frac{1}{3}$.

peduncle $1\frac{1}{2}$ to $1\frac{3}{4}$ times as long as deep. Scales longitudinally striated, 44–46 $\frac{8\frac{1}{2}}{8\frac{1}{2}}$, 5 between lateral line and ventral, 16 round caudal peduncle; in most specimens, scales, at least those below lateral line on caudal portion of body, bearing a median swelling or obtuse keel, these keels forming together very regular longitudinal lines. Olive above, silvery white beneath.

Total length 550 millim. Grows to 1 metre.

Lake Tanganyika.

1–3. Types.	Usambura.	Prof. J. E. S. Moore (C.).
4. Ad.	Niamkolo.	Dr. W. A. Cunnington (C.).
5. Yg.	Mbete.	,,
6. Yg.	Uvira.	,,

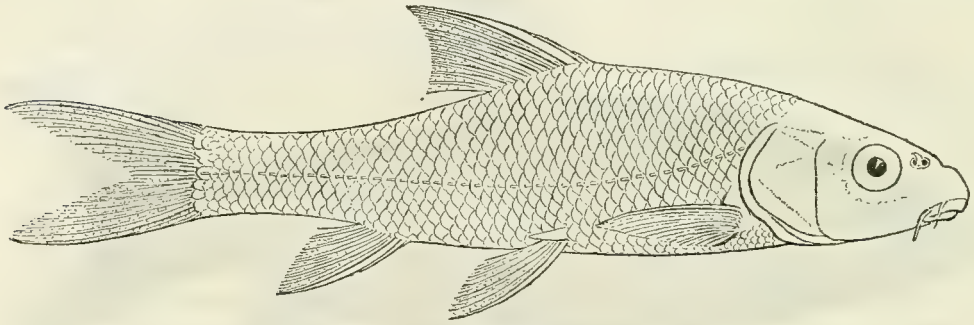
2. BARBUS POLYLEPIS.

Bouleng. Proc. Zool. Soc. 1907, p. 308, fig.

Depth of body $4\frac{1}{5}$ times in total length, length of head $3\frac{1}{3}$ times. Snout rounded-subacuminate, 3 times in length of head, feebly projecting beyond mouth; eye $4\frac{1}{4}$ times in length of head, interorbital width $3\frac{1}{3}$ times; mouth small, inferior, its width 4 times in length of head; lips well developed, lower continuous across chin; two barbels

on each side, subequal in length, $\frac{3}{5}$ diameter of eye. Dorsal III 8, equally distant from eye and from root of caudal, border concave; last simple ray strong, bony, not serrated, its rigid part $\frac{2}{3}$ length of head. Anal III 5, not reaching root of caudal. Pectoral $\frac{2}{3}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal.

Fig. 3.



Barbus polylepis.
Type (P. Z. S. 1907).

Caudal peduncle twice as long as deep. Scales longitudinally striated, 43 $\frac{7\frac{1}{2}}{9\frac{1}{2}}$, 5 between lateral line and ventral, 18 round caudal peduncle. Olive-grey above, white beneath.

Total length 120 millim.

Klein Olifant River, Limpopo System.

1. Type. Klein Olifant R., Transvaal. Major G. E. Bruce (P.).

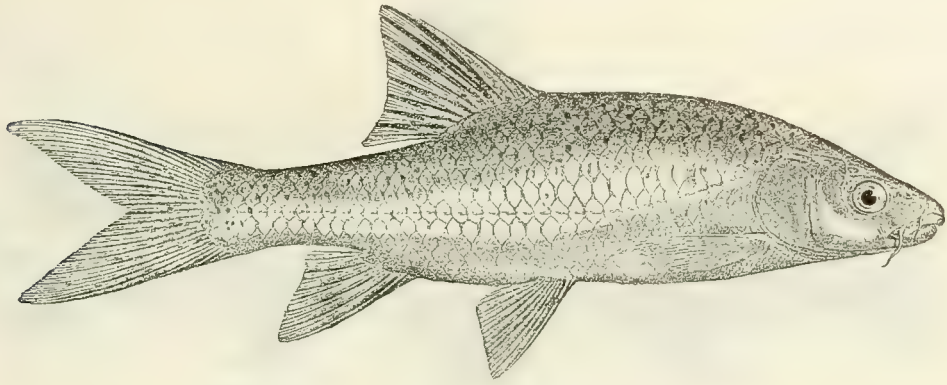
3. BARBUS HOLUBI.

Steind. Sitzb. Ak. Wien, ciii. i. 1894, p. 449, pl. iii. fig. 1; M. Weber, Zool. Jahrb., Syst. x. 1897, p. 151; Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 424, and Proc. Zool. Soc. 1907, p. 309.

Depth of body equal or nearly equal to length of head, $3\frac{1}{2}$ to 4 times in total length. Snout rounded, feebly projecting beyond mouth, $3\frac{1}{4}$ to 4 times in length of head; eye $3\frac{1}{2}$ (young) to $4\frac{1}{2}$ times in length of head, interorbital width $2\frac{3}{4}$ to 3 times; mouth subinferior, its width 4 to 5 times in length of head; lips moderately developed, lower continuous across chin; two barbels on each side, posterior not or but slightly longer than anterior and as long as eye or little longer. Dorsal IV 8, equally distant from occiput and from base of caudal, or a little nearer latter, border feebly concave; last simple ray strong, bony, not serrated, nearly straight, $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral as long as or a little shorter than head,

not reaching ventral; base of latter below anterior rays of dorsal, the origin of which falls a little behind first ray of ventral. Caudal peduncle 2 to $2\frac{1}{3}$ times as long as deep. Scales longitudinally striated, 36–42 $\frac{6\frac{1}{2}-7\frac{1}{2}}{6\frac{1}{2}-7\frac{1}{2}}$, 4 between lateral line and ventral, 16 round caudal peduncle. Olive-brown above, silvery white beneath.

Fig. 4.



Barbus holubi.
Type, after Steindachner (*l. c.*). $\frac{1}{3}$.

Total length 210 millim.

Vaal River and Limpopo River to Natal.—Type in Vienna Museum.

1. Ad.	Vaal R., near Vredefort, Orange R. Colony.	Capt. Barrett-Hamilton (P.).
2–3. Ad. & hgr.	Groot Olifant R., Transvaal.	Major G. E. Bruce (P.).
4–7. Ad., hgr., & yg.	Mooi R. at Potchefstroom, Transvaal.	Mr. Stenning (C.); S. African Museum (P.).
8–9. Yg.	Ngoya Hills, Zululand.	Mr. C. Grant (C.); C. D. Rudd, Esq. (P.).

Barbus natalensis, Casteln. Mém. Poiss. Afr. Austr. p. 59 (1861), from the Tugela River, is insufficiently described, but the few notes given do not disagree with the characters of the above species.

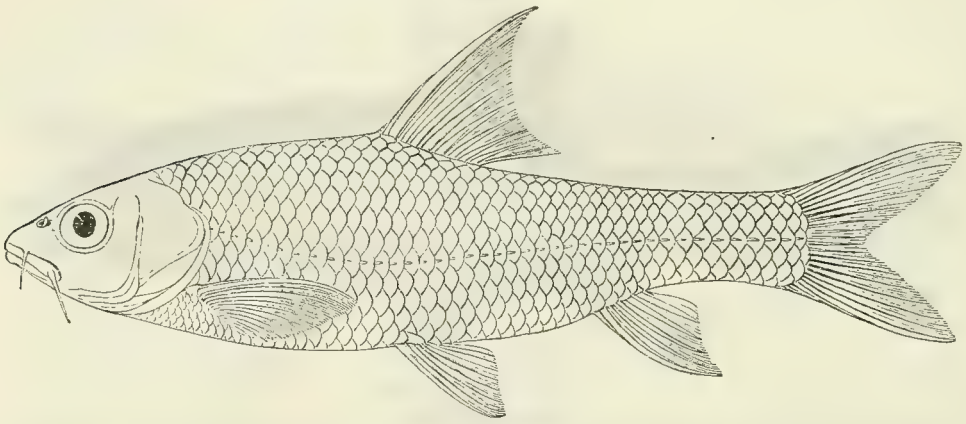
4. BARBUS MICROTEROLEPIS.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 426.

Depth of body equal to length of head, $3\frac{4}{5}$ times in total length. Snout rounded, $3\frac{1}{3}$ times in length of head; eye 4 times in length of head, interorbital width 3 times; mouth terminal, its width $4\frac{1}{2}$ times in length of head; lips moderately developed, lower continuous; two barbels on each side, anterior $\frac{3}{4}$ diameter of eye, posterior as long as

eye. Dorsal IV 8, equally distant from eye and from root of caudal, border deeply concave; last simple ray strong, bony, not serrated, slightly curved, a little shorter than head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter a little posterior to origin of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as

Fig. 5.



Barbus microterolepis.
Type. $\frac{5}{6}$.

deep. Scales longitudinally striated, 40 $\frac{7\frac{1}{2}}{6\frac{1}{2}}$, 4 between lateral line and ventral, 16 round caudal peduncle. Olive above, silvery beneath; fins greyish.

Total length 135 millim.

Maki River (Lake Zwai), Southern Ethiopia.

1. Type. Maki R. at Buggali, 4000 ft. Mr. E. Degen (C.).

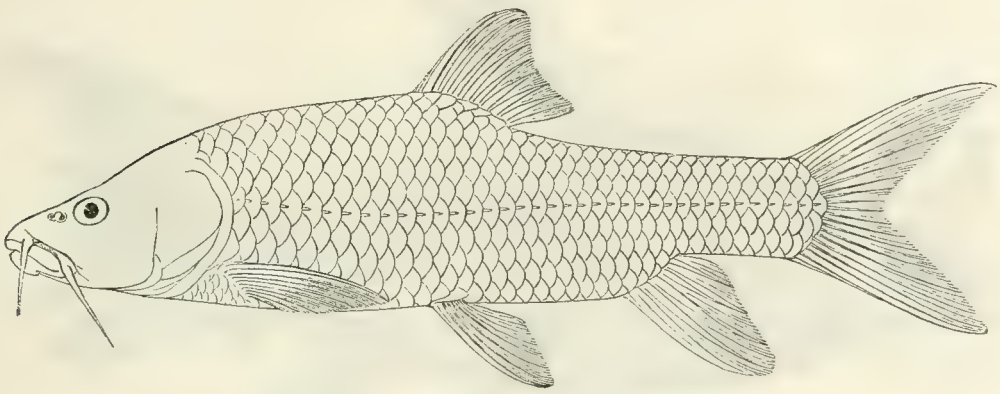
5. BARBUS MACRONEMA.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 427.

Depth of body $3\frac{1}{2}$ to $3\frac{3}{4}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout rounded, $3\frac{1}{4}$ to $3\frac{1}{3}$ times in length of head; eye 6 to $6\frac{1}{2}$ times in length of head, interorbital width $2\frac{3}{4}$ to 3 times; mouth inferior, its width $3\frac{1}{4}$ to 4 times in length of head; lips well developed, lower continuous and with a very short, rounded or truncate median lobe; two barbels on each side, nearly equal, 2 to $2\frac{1}{2}$ diameters of eye. Dorsal IV 8, equally distant from occiput and from root of caudal, or a little nearer former, border concave; last simple ray strong, bony, not serrated, feebly curved, about $\frac{1}{2}$ length of head. Anal III 5, reaching

root of caudal, or a little beyond. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 32–37 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, 4 between lateral line and ventral, 12 or 14 round caudal peduncle. Olive above, yellowish beneath; fins greyish.

Fig. 6.



Barbus macronema.
Type. $\frac{1}{3}$.

Total length 365 millim.

Hawash River System, Southern Ethiopia.

1. Type.	Maki R. at Gafersa, 5000 ft.	Mr. E. Degen (C.).
2–3. Types.	Hawash R. at Dedota, 5500 ft.	,,
4. Type.	Hurso R., Upper Adal, 7000 ft.	,,
5. Skel.	,, ,,	,,

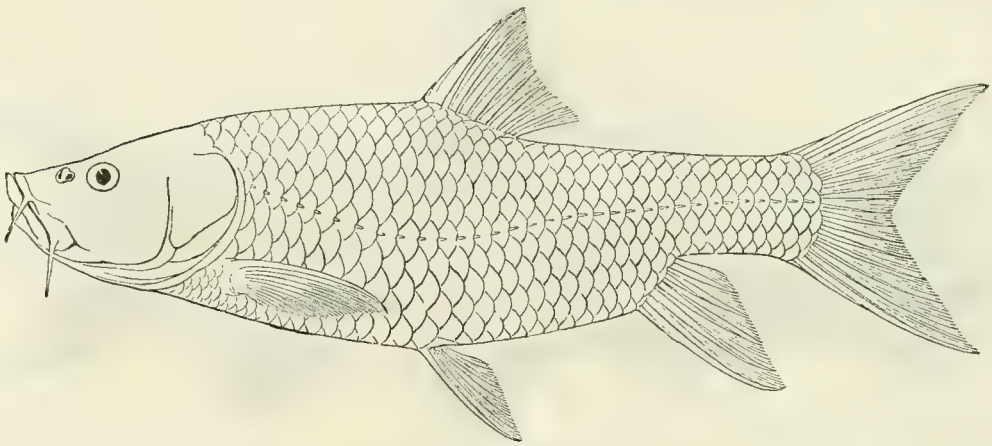
6. BARBUS RUEPPELLI.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 427.

Depth of body equal to length of head, $3\frac{1}{2}$ to $3\frac{4}{5}$ times in total length. Snout broad, rounded, 3 to $3\frac{1}{4}$ times in length of head; eye $4\frac{1}{2}$ (young) to $6\frac{1}{2}$ times in length of head, interorbital width 3 to $3\frac{1}{3}$ times; mouth inferior, its width 4 times in length of head; lips broad, continuous across the chin, but not forming a median lobe; two barbels on each side, anterior $1\frac{1}{2}$ to $1\frac{3}{4}$ diameters of eye, posterior $1\frac{3}{4}$ to 2. Dorsal IV 8, nearer occiput than root of caudal, border concave; last simple ray strong, bony, not serrated, feebly curved, $\frac{2}{5}$ to $\frac{2}{3}$ length of head. Anal III 5, reaching caudal or a little beyond. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, not reaching ventral; base of latter below or slightly posterior

to origin of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 33–36 $\frac{6\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, 4 between lateral line and ventral, 12 or 14 round caudal peduncle. Greenish above, golden on the sides and below; fins yellowish green.

Fig. 7.



Barbus rueppelli.
Type. $\frac{1}{3}$.

Total length 340 millim.

Errer River (Hawash System), Southern Ethiopia.

1–4. Types.	Errer R., Upper Adal, 4000 ft.	Mr. E. Degen (C.).
5. Skel.	„ „	„

7. BARBUS BYNNI.

Cyprinus bynni, Forsk. Descr. Anim. p. 71 (1775); Gmel. Syst. Nat. i. p. 1414 (1789); Sonnini, Voy. Egypte, iii. p. 400, pl. xxvii. fig. 3 (1799).

Cyprinus lepidotus, Geoffr. Descr. Egypte, Poiss. pl. x. fig. 2 (1809).

Barbus binny, I. Geoffr. op. cit. p. 282 (1827).

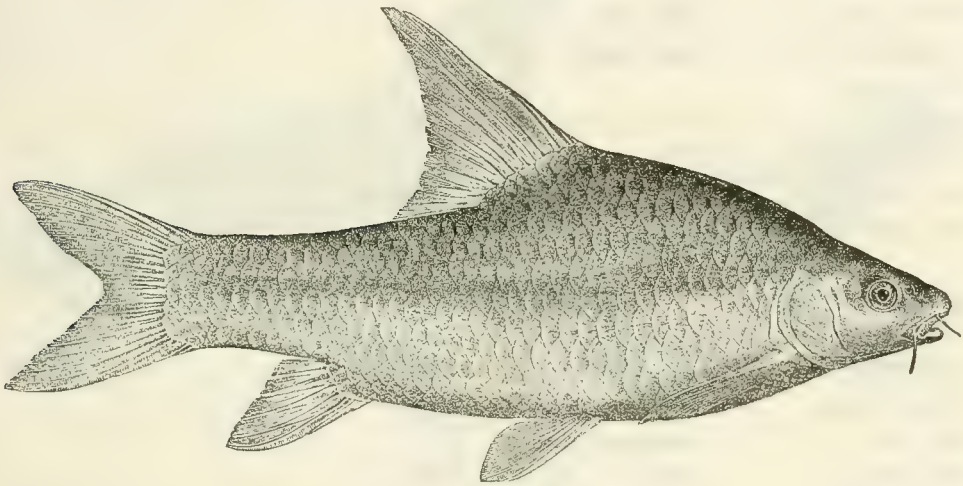
Barbus lepidotus, Rüpp. Beschr. n. Fische Nil, p. 4 (1829).

Barbus bynni, Cuv. & Val. Hist. Poiss. xvi. p. 174 (1842); Günth. Cat. Fish. vii. p. 104 (1868), and Petherick's Trav. ii. p. 261 (1869); Bouleng. Fish. Nile, p. 203, pl. xxxiv. (1907).

Depth of body $2\frac{2}{3}$ to $3\frac{1}{3}$ (exceptionally $3\frac{1}{2}$) times in total length, length of head 4 or 5 times. Snout rounded or subacuminate, more or less prominent, $3\frac{1}{4}$ to $3\frac{3}{4}$ times in length of head; eye 3 (young) to 6 times in length of head, interorbital width $2\frac{1}{2}$ to 3 times; mouth inferior, its width 4 to 6 times in length of head; lips well developed, sometimes very strongly, lower continuous across the chin and usually

produced into a median rounded or subtriangular lobe which is shorter than the eye; two barbels on each side, anterior as long as eye or a little longer (shorter in the young), posterior usually $1\frac{1}{3}$ to $1\frac{1}{2}$ diameters of eye. Dorsal IV 9 (rarely 8, exceptionally 10), equally distant from

Fig. 8.



Barbus bynni.
Nubia (F. N.). $\frac{1}{3}$.

occiput and from root of caudal, border concave; last simple ray very strong, bony, not serrated, its ossified part usually $1\frac{1}{4}$ to $1\frac{2}{3}$ times length of head (exceptionally slightly shorter than head). Anal III 5, sometimes nearly reaching root of caudal. Pectoral as long as or a little shorter than head, not reaching ventral; base of latter below or slightly in advance of anterior rays of dorsal. Caudal peduncle 1 to $1\frac{1}{3}$ times as long as deep. Scales finely striated longitudinally, 31–39 (usually 34–37) $\frac{6\frac{1}{2}}{5\frac{1}{2}}$ (exceptionally $\frac{5\frac{1}{2}\text{ or }7\frac{1}{2}}{6\frac{1}{2}}$), 3 (rarely $3\frac{1}{2}$, exceptionally 4) between lateral line and ventral, 14 (rarely 12 or 16) round caudal peduncle. Yellowish or silvery, grey or olive on the back; fins yellow or orange, anal and caudal pink or red, ends of dorsal and caudal rays sometimes blackish.

Total length 460 millim. Grows to 660 millim.

Nile and Lake Baringo.

1–6. Ad. & hgr.	Lower Nile.	J. Petherick, Esq. (C.).
7. Skel.	,,	,,
8–9. Hgr.	Near Damietta.	L. Loat, Esq. (C.).
10. Hgr.	Near San, L. Menzaleh.	,,

11–18. Ad., hgr., & yg.	Damietta Nile, near Samannud.	L. Loat, Esq. (C.).
19–26. Hgr. & yg.	Damietta Nile, near Samannud, upstream side of Barrage.	,,
27. Hgr.	Near Warreg Id., 2 miles N. Cairo.	,,
28–32. Hgr.	Near Cairo.	,,
33–40, 41–48. Ad. & yg.	Beni Souef.	,,
49. Ad.	Sanhur, near Beni Souef.	,,
50. Hgr.	Bahr Selah, Fayum.	,,
51. Ad.	Lahun, Bahr-Yusuf, Fayum.	,,
52. Hgr.	Birket Karun.	Dr. Cunnington and C. L. Boulenger, Esq. (C.).
53. Hgr.	Between Abu-Tig and Assiut.	L. Loat, Esq. (C.).
54–55. Hgr.	Near Luxor.	,,
56–65. Yg.	Between Luxor and Assuan.	,,
66–67. Hgr.	Assuan.	,,
68. Ad.	Korosko, Nubia.	,,
69. Hgr.	Derr, ,,	,,
70–79. Yg.	Wadi Halfa.	,,
80. Yg.	Kosheh, Nubia.	,,
81. Yg.	N. of Kesmah, Nubia.	,,
82. Yg.	Korti, Nubia.	,,
83–90. Hgr.	Khartum.	J. Petherick, Esq. (C.).
91. Yg.	Rosaires, Blue Nile.	Capt. S. Flower (P.).
92–101. Hgr. & yg.	L. Baringo.	Sir H. H. Johnston (P.).

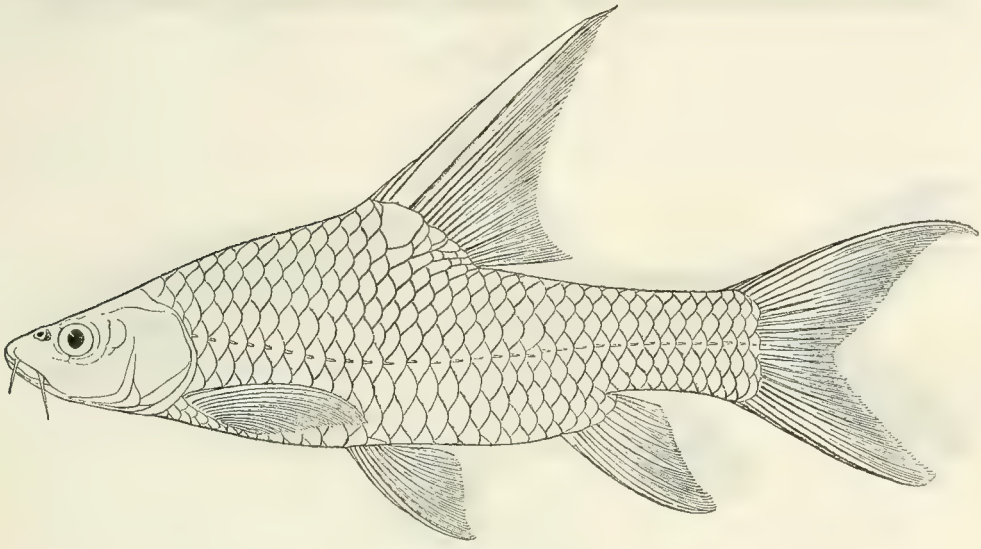
8. BARBUS RUSPOLII.

Vincig. Ann. Mus. Genova, (2) xvii. 1896, p. 29, and xix. 1898, p. 260 ; Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 564.

Depth of body $2\frac{2}{3}$ to 3 times in total length, length of head 4 times. Snout rounded or subacuminate, not prominent, $3\frac{1}{3}$ to $3\frac{2}{3}$ times in length of head; eye 4 to 5 times in length of head, interorbital width $2\frac{3}{4}$ to 3 times; mouth subinferior, its width 4 to $4\frac{1}{2}$ times in length of head; lips moderately developed, lower continuous across the chin; two barbels on each side, anterior as long as eye, posterior $1\frac{1}{5}$ to $1\frac{1}{4}$ diameters of eye. Dorsal IV 9, equally distant from occiput and from root of caudal, border concave; last simple ray extremely strong, bony, not serrated, its ossified part $1\frac{1}{2}$ to $1\frac{1}{2}$ length of head. Anal III 5, reaching or nearly reaching caudal. Pectoral as long as head, reaching or nearly

reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as deep. Scales finely striated

Fig. 9.



Barbus ruspolii.
L. Gandjule. $\frac{1}{3}$.

longitudinally, 32–34 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12–14 round caudal peduncle. Silvery, back greenish.

Total length 340 millim.

Lakes Abaia and Gandjule (Margherita).—Type in Genoa Museum.

1–6. Ad.	L. Gandjule.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).

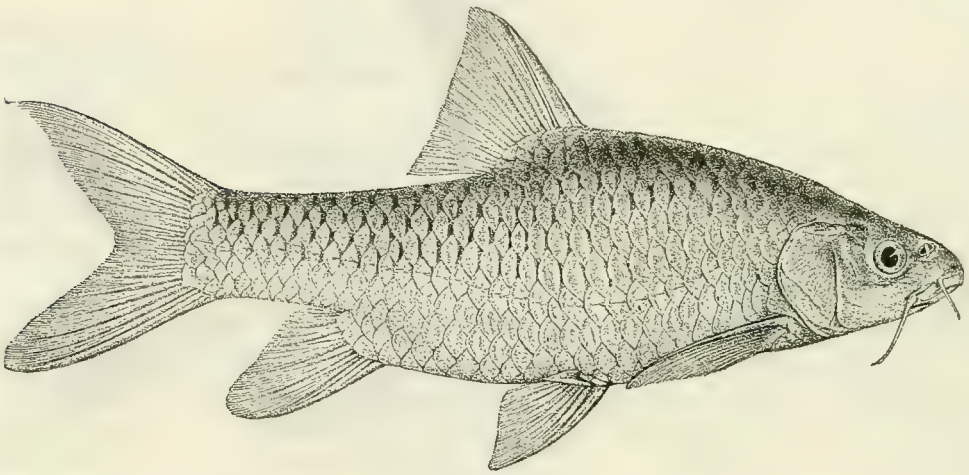
9. BARBUS ERLANGERI.

Bouleng. Proc. Zool. Soc. 1903, ii. p. 329, pl. xxix.

Depth of body 3 to $3\frac{1}{3}$ times in total length, length of head $3\frac{1}{2}$ to $4\frac{1}{3}$ times. Snout rounded or subacuminate, prominent, its length 3 to $3\frac{1}{2}$ times in length of head; eye $3\frac{1}{3}$ (young) to 5 times in length of head, interorbital width $2\frac{1}{2}$ to 3 times; mouth inferior, its width 4 to 5 times in length of head; lips well developed, lower continuous across chin, forming a small, rounded median lobe; two barbels on each side, anterior $\frac{2}{3}$ diameter of eye in young, $1\frac{1}{3}$ in adult, posterior longer, as long as eye in young, twice as long in adult. Dorsal IV 9, its distance from occiput equal to or a little less than its distance from root of caudal, border feebly concave; last simple ray very strong, bony,

not serrated, its ossified part $\frac{2}{3}$ to $\frac{5}{6}$ length of head. Anal III 5, not reaching, or nearly reaching, caudal when folded. Pectoral as long as or a little shorter than head, not reaching ventral; latter originating a little in advance of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as

Fig. 10.



Barbus erlangeri.
Type (P. Z. S. 1903). $\frac{2}{5}$.

long as deep. Scales longitudinally striated, 30–35 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12–14 round caudal peduncle. Silvery, back olive-brown.

Total length 270 millim.

Wabbi, Modjo, and Iraro Rivers (Webi Shebeli System), S. Ethiopia.

1–2. Hgr. & yg., types.	Wabbi R.	Prof. O. Neumann and Baron C. v. Erlanger (C.).
3–6. Ad., hgr., & yg., types.	Modjo R.	,,
7. Yg., type.	Iraro R.	,,

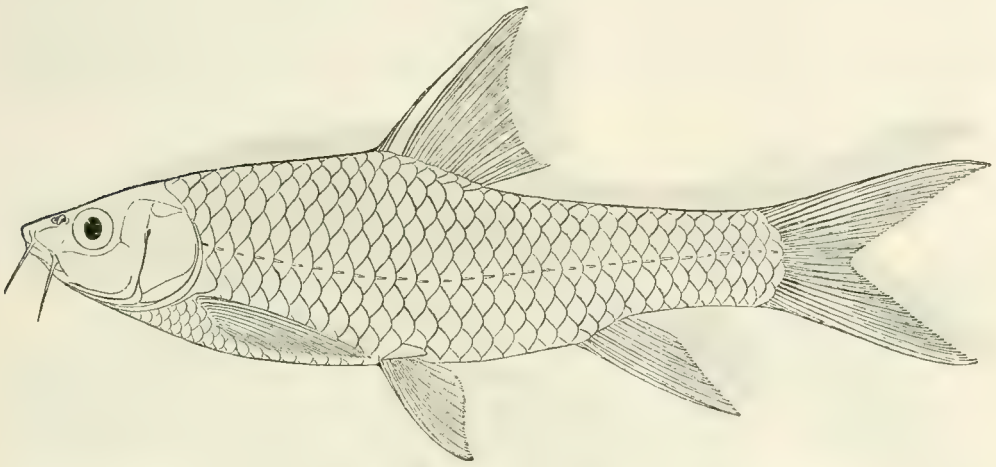
10. BARBUS KASSAMENSIS.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 431.

Depth of body $3\frac{1}{2}$ times in total length, length of head 4 times. Snout rounded, $3\frac{1}{3}$ times in length of head; eye $4\frac{1}{2}$ times in length of head, interorbital width 3 times; mouth inferior, its width $\frac{1}{4}$ length of head; lips moderately developed, lower continuous across the chin but not produced into a lobe; two barbels on each side, anterior $1\frac{1}{2}$ diameters of eye, posterior $1\frac{3}{5}$. Dorsal IV 8, its distance from eye equal to its distance from caudal, border concave; last simple ray

very strong, bony, not serrated, as long as head. Anal III 5, reaching root of caudal. Pectoral as long as head, nearly reaching ventral; latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{3}$ times as long as deep. Scales longitudinally striated, 30 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line

Fig. 11.



Barbus kassamensis.
Type. $\frac{1}{2}$.

and ventral, 12 round caudal peduncle. Olive-brown above, scales edged with darker, yellowish beneath; fins greenish yellow.

Total length 225 millim.

Kassam River (Hawash System), Southern Ethiopia.

1. Type.	Kassam R. at Awhorra Mullka, Shoa, 4000 ft.	Mr. E. Degen (C.).

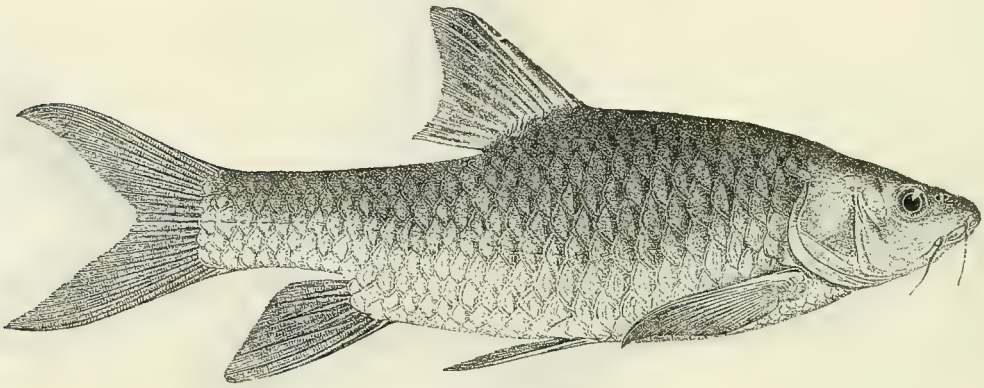
11. BARBUS DUCHESNII.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 433; Pellegr. Bull. Mus. Paris, 1905, p. 291; Bouleng. Fish. Nile, p. 208, pl. xxxv. fig. 1 (1907).

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head $3\frac{3}{4}$ to $4\frac{1}{4}$ times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye 4 to $5\frac{1}{4}$ times in length of head, interorbital width $2\frac{2}{3}$ to 3 times; mouth inferior, its width about 4 times in length of head; lips moderate, lower continuous across chin; two barbels on each side, subequal or posterior a little the longer, $1\frac{3}{5}$ to 2 diameters of eye. Dorsal IV 9 (rarely 8), a little nearer occiput than root of caudal, border strongly concave; last simple ray very strong, bony, not serrated, straight or very slightly curved, $\frac{2}{3}$ to $\frac{4}{5}$ length of head in adult, as long as head in

young. Anal III 5, reaching or nearly reaching caudal in adult. Pectoral nearly as long as head, narrowly separated from ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 29–33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$ (exceptionally $\frac{4\frac{1}{2}}{4\frac{1}{2}}$), $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Green, blue, or dark olive above, white beneath.

Fig. 12.



Barbus duchesnii.
Type (F. N.). $\frac{5}{12}$.

Total length 300 millim.

Lake Tsana and upper tributaries of Blue Nile; Hawash River System; Omo River System; Lakes Abaia and Stephanie.

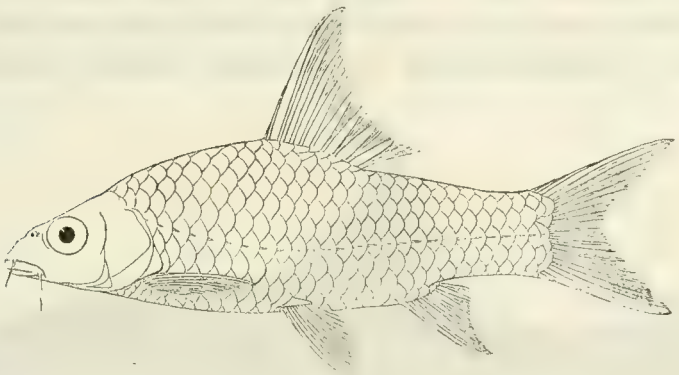
1. Type.	Bahardar, L. Tsana.	Mr. E. Degen (C.).
2. Type.	Mogre R., Shoa, 6000 ft.	,,
3–4. Ad.	Ergino R., Omo, 3000 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
5. Skel.	,, ,,	,,
6. Ad.	Zendo R., Omo, 4300 ft.	,,
7–12. Ad. & hgr.	Sagan R., 2800 ft.	,,
13–14. Ad. & yg.	Elgo R., L. Abaia, 3000 ft.	,,
15–18. Hgr. & yg.	Ganda R., L. Gandjule, 3000 ft.	,,

12. BARBUS OCCIDENTALIS, sp. n.

Depth of body 3 times in total length, length of head $3\frac{1}{2}$ (to 4) times. Snout rounded, $3\frac{1}{4}$ times in length of head, eye $3\frac{1}{4}$ (to $3\frac{2}{3}$) times, interorbital width 3 times; mouth subinferior, its width $4\frac{1}{2}$ times in length of head; lips well developed, lower forming a rounded mental lobe; two barbels on each side, anterior $\frac{2}{3}$ diameter of eye, posterior as

long as eye. Dorsal IV 8, equally distant from eye and from root of caudal, border concave; last simple ray strong, bony, not serrated, nearly straight, $\frac{3}{4}$ (to $1\frac{1}{4}$ times) length of head Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter

Fig. 13.



Barbus occidentalis.
Type.

below anterior rays of dorsal. Caudal peduncle a little longer than deep. Scales longitudinally striated, 27(–28) $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Dark green above, silvery white below; anal and caudal orange, other fins colourless.

Total length 80 millim.

Ogun River, Lagos; Upper Niger *.

1. Yg., type. Ogun R. at Aro, near Abeokuta. Major G. E. Bruce (P.).

13. BARBUS LOBOGENYS.

Barbus (*Labeobarbus*) *nedgia* (non Rüpp.), Hilgend. Sitzb. Ges. naturf. Fr. Berl. 1888, p. 78.

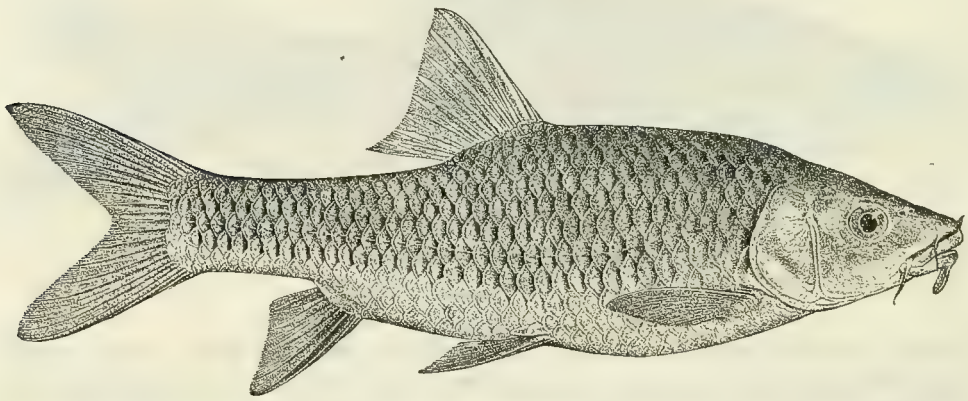
Barbus lobogenys, Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 435, and Fish. Nile, p. 210, pl. xxxvi. fig. 1 (1907).

Depth of body equal to or a little greater than length of head, $3\frac{1}{2}$ to $4\frac{1}{6}$ times in total length. Snout rounded, projecting considerably beyond mouth, $2\frac{2}{3}$ to 3 times in length of head; eye $3\frac{2}{3}$ (young) to $5\frac{1}{2}$ times in length of head, interorbital width $2\frac{1}{2}$ to 3 times; mouth

* Since describing this *Barbus* from a young specimen, I have received, from Mr. C. H. Firmin, a photograph of a larger fish obtained by him at Jebba, Upper Niger, which evidently pertains to the same species. The few points in which it differs from the type are indicated in brackets.

inferior, its width 3 to 4 times in length of head; lips strongly developed, lower continuous across chin and often produced into a long rounded median lobe; two barbels on each side, anterior $\frac{2}{3}$ to $\frac{1}{1}\frac{1}{2}$ diameter of eye, posterior as long as eye or a little shorter. Dorsal III 8 (rarely 9), equally distant from occiput and from root of caudal, border feebly concave; last simple ray strong, bony, not serrated, straight, $\frac{1}{2}$ to $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter

Fig. 14.



Barbus loboyenys.
Type (F. N.). $\frac{1}{2}$.

below anterior rays of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 32–36 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3–$3\frac{1}{2}$ between lateral line and ventral, 12–14 round caudal peduncle. Coppery brown above, pinkish or brassy yellow on the sides, the scales dark brown at the base; silvery white below; pectoral and ventral fins orange; dorsal, anal, and caudal yellow at the base, greyish or blackish towards the border.

Total length 540 millim.

Lake Victoria.

1. Ad., skin, type.	Buganga.	Mr. E. Degen (C.).
2–7. Hgr. & yg., types.	Bunjako.	,,

14. BARBUS RADCLIFFII.

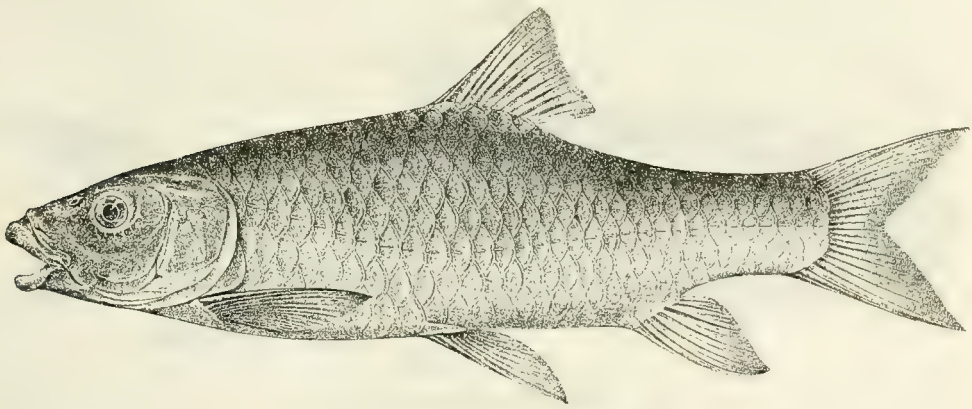
Bouleng. Ann. & Mag. N. H. (7) xii. 1903, p. 218, and Fish. Nile, p. 212, pl. xxxvii. fig. 1 (1907).

Barbus marequensis (non Smith), Pellegr. Mém. Soc. Zool. France, xvii. 1905, p. 177.

Depth of body equal to or a little greater than length of head, 3 to 4

times in total length. Snout rounded, $2\frac{3}{5}$ to $3\frac{1}{5}$ times in length of head; eye $3\frac{1}{3}$ (young) to $6\frac{3}{4}$ times in length of head, interorbital width $2\frac{3}{5}$ to 3 times; mouth subinferior, its width 3 to 4 times in length of head; lips well developed, sometimes produced in the middle, lower continuous across chin; two barbels on each side, anterior $\frac{2}{3}$ to $\frac{5}{6}$ diameter of eye, posterior as long as eye or slightly shorter. Dorsal III 9 (rarely 8), equally distant from occiput and from root of caudal, border feebly concave; last simple ray strong, bony, not serrated,

Fig. 15.



Barbus radcliffii.
Type (F. N.). $\frac{1}{3}$.

straight, $\frac{1}{3}$ to $\frac{3}{4}$ length of head. Anal III 5, nearly reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{5}{6}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 32–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 12–14 round caudal peduncle. Brown above, scales darker at the base; fins yellow or yellowish green, often much obscured with blackish.

Total length 520 millim.

Lake Victoria.

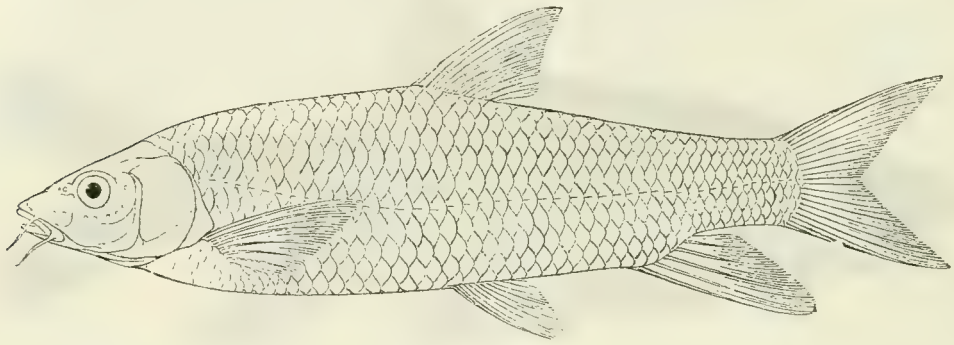
1. Ad., skin, type.	L. Victoria.	Mr. W. G. Doggett (C.); Col. Delmé Radcliffe (P.).
2–5. Skins.	,,	,,
6–7. Ad. & hgr.	Entebbe.	Mr. E. Degen (C.).
8–14. Ad., hgr., & yg.	Bunjako.	,,

15. BARBUS MAREQUENSIS.

Barbus (*Cheilobarbus*) *marequensis*, A. Smith, Ill. Zool. S. Afr., Fish. pl. x. fig. 2 (1841).

Depth of body nearly equal to length of head, nearly 4 times in total length. Snout rounded, 3 times in length of head; eye $5\frac{1}{2}$ times in length of head, interorbital width $2\frac{1}{2}$ times; mouth inferior, its width about $\frac{1}{4}$ length of head; lips well developed, lower continuous across the chin; two barbels on each side, subequal, about $1\frac{1}{2}$ diameters of eye. Dorsal III 8, equally distant from occiput and from caudal, border

Fig. 16.



Barbus marequensis.
Type, after A. Smith (*op. cit.*). $\frac{1}{3}$.

scarcely emarginate; last simple ray rather feeble, bony, not serrated, nearly $\frac{2}{3}$ length of head. Anal III 5, reaching root of caudal. Pectoral $\frac{3}{5}$ length of head, not reaching ventral; base of latter slightly behind origin of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 33 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Olive-brown above, yellow beneath; lips and barbels dull flesh-colour; fins pale yellow, shaded with dull yellowish brown.

Total length 350 millim.

Interior of South Africa.

1. One of the types, stuffed. S. Africa. Sir A. Smith (P.).

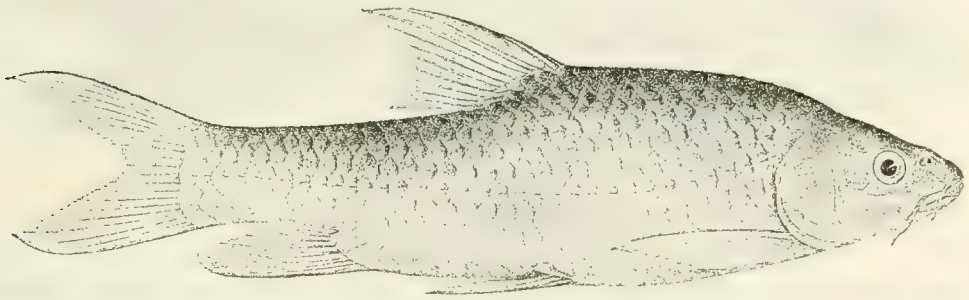
16. BARBUS ALTIANALIS.

Boulenger, Ann. & Mag. N. H. (7) vi. 1900, p. 479, Poiss. Bass. Congo, p. 223 (1901), and Tr. Zool. Soc. xvi. 1901, p. 144, pl. xiii. fig. 1.

Depth of body equal to or slightly greater than length of head, which is contained 4 to $4\frac{1}{2}$ times in total length. Snout rounded, projecting beyond mouth, 3 to $3\frac{1}{2}$ times in length of head; eye 5 to $5\frac{1}{2}$ times in

length of head, interorbital width $2\frac{2}{3}$ to $2\frac{3}{4}$ times; mouth inferior, its width 4 times in length of head; lips moderate, lower continuous across chin; two barbels on each side, subequal or posterior a little longer, $1\frac{1}{5}$ to $1\frac{1}{2}$ diameters of eye. Dorsal III–IV 9, equally distant from occiput and from root of caudal, border concave; last simple ray very strong, bony, not serrated, $\frac{1}{2}$ to $\frac{3}{4}$ length of head. Anal III 5, reaching or nearly reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated,

Fig. 17.



Barbus altianalis.
Type (Tr. Zool. Soc. 1900). $\frac{1}{3}$.

34–35 $\frac{6\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 12–14 round caudal peduncle. Dark olive-brown, lighter beneath, scales darker at the base.

Total length 450 millim.

Lake Kivu and Rusisi River.

1–2. Types.	L. Kivu.	Prof. J. E. S. Moore (C.).
3. Type.	Rusisi R.	,,

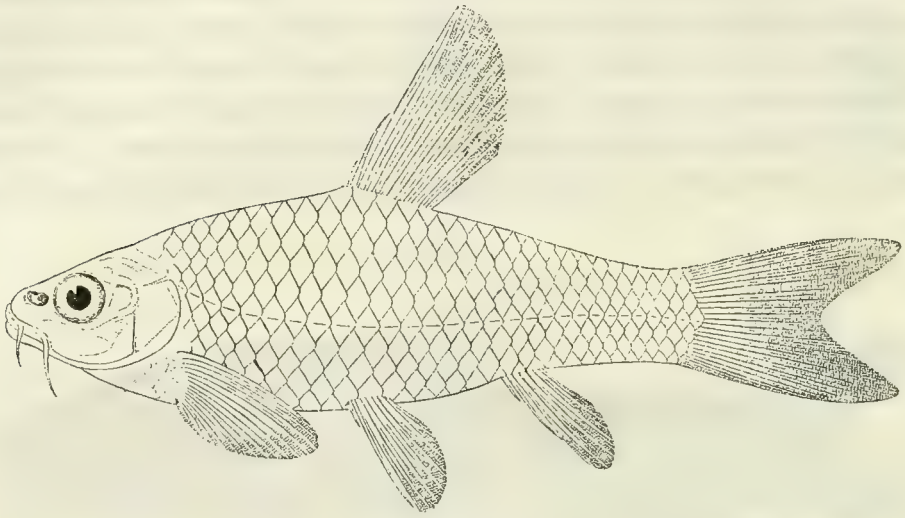
17. BARBUS GANANENSIS.

Vinciguerra, Ann. Mus. Genova, (2) xv. 1895, p. 53, pl. v. fig. 2, and xvii. 1897, p. 362.

Depth of body $3\frac{2}{3}$ to 4 times in total length, length of head 4 times or a little over. Snout rounded, $3\frac{1}{3}$ times in length of head; eye 3 times in length of head, interorbital width less than 3 times; mouth small, inferior; lower lip much developed, with a subtriangular median lobe; two barbels on each side, anterior a little shorter, posterior a little longer than eye. Dorsal III 9, nearer occiput than root of caudal, border straight; last simple ray strong, bony, not serrated, straight, at least as long as head. Anal II 5, not reaching caudal. Pectoral a little

shorter than head, not reaching ventral; latter below anterior rays of dorsal. Caudal peduncle about $1\frac{1}{2}$ times as long as deep. Scales

Fig. 18.



Barbus gananensis.
Type, after Vinciguerra (*l. c.*).

longitudinally striated, 30 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Brownish above, silvery beneath.

Total length 117 millim.

Ganana and Auata Rivers, Somaliland.—Types in Genoa Museum.

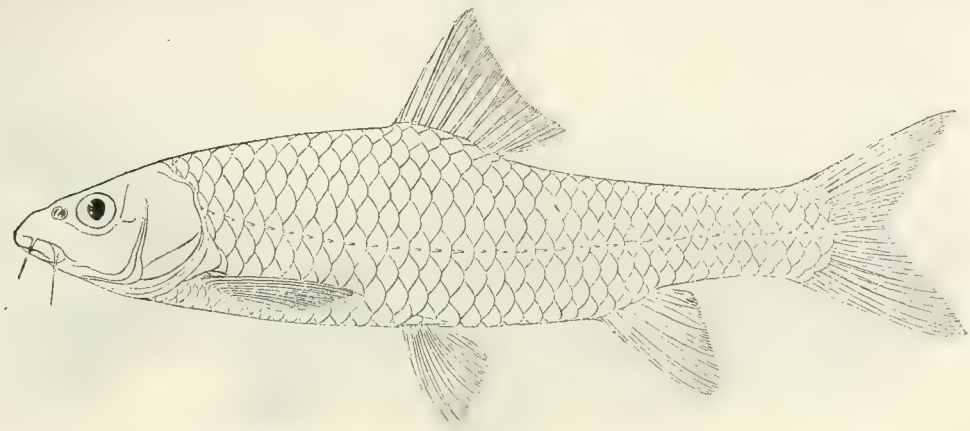
18. BARBUS OREAS.

Boulenger. Ann. & Mag. N. H. (7) x. 1902, p. 432.

Depth of body equal to or slightly greater than length of head, $3\frac{2}{3}$ to 4 times in total length. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye $3\frac{2}{3}$ (young) to $5\frac{1}{2}$ times in length of head, interorbital width $2\frac{3}{4}$ to 3 times; mouth inferior, its width 4 to $4\frac{1}{2}$ times in length of head; lips much developed, lower continuous across the chin, forming a rounded median lobe; two barbels on each side, anterior as long as eye or slightly longer, posterior $1\frac{1}{5}$ to $1\frac{1}{2}$ diameters of eye (not longer than eye in very young). Dorsal IV 8 (rarely 9), equally distant from eye and from root of caudal, border concave; last simple ray strong, bony, not serrated, $\frac{1}{2}$ to $\frac{2}{3}$ length of head (as long as head in very young). Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{5}{6}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal.

Caudal peduncle $1\frac{1}{2}$ to nearly 2 times as long as deep. Scales longitudinally striated, 31–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral,

Fig. 19.



Barbus oreas.
Type. $\frac{2}{3}$.

12–14 round caudal peduncle. Olive above, silvery on the sides and below, scales darker at the base; dorsal and caudal fins greyish.

Total length 300 millim.

Hawash River and Lake Zwai, Southern Ethiopia.

1–2. Hgr., types.	Jerrer R., near Harrar, 6000 ft.	Mr. E. Degen (C.).
3. Ad.	Hawash R. at Zekuala, 4100 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
4–6. Hgr. & yg.	Akaki R., Hawash, 4500 ft.	,,
7–10. Ad. & hgr.	L. Zwai, 4000 ft.	,,
11. Ad.	Maki R., L. Zwai.	,,
12–14. Ad.	Suksuki R., L. Zwai.	,,

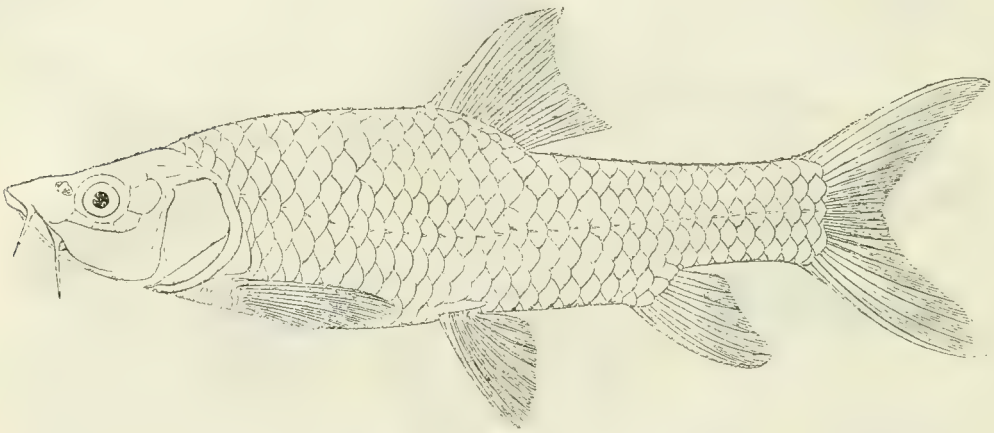
19. BARBUS MARGARITÆ.

Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 565.

Depth of body $3\frac{3}{4}$ to $4\frac{1}{3}$ times in total length, length of head $3\frac{1}{2}$ to $3\frac{3}{4}$ times. Snout rounded or obtusely pointed, 3 to $3\frac{1}{4}$ times in length of head; eye 4 (young) to 7 times in length of head, interorbital width 3 to $3\frac{1}{4}$ times; mouth inferior, its width 4 to 5 times in length of head; lips strongly developed, lower continuous across the chin and forming a short, rounded, median lobe; two barbels on each side, anterior 1 to $1\frac{1}{3}$, posterior $1\frac{1}{3}$ to $1\frac{1}{2}$ diameters of eye. Dorsal IV 9 (or 8), equally distant

from occiput and from root of caudal, border concave; last simple ray very strong, bony, not serrated, straight or slightly curved, $\frac{1}{2}$ to $\frac{3}{4}$ length of head. Anal III 5, nearly reaching caudal. Pectoral $\frac{2}{7}$ to $\frac{4}{5}$ length of head, not reaching ventral; latter below anterior rays of dorsal. Caudal

Fig. 20.



Barbus margaritæ.
Type. $\frac{5}{1\,2}$.

peduncle $\frac{1}{2}$ to $\frac{3}{4}$ times as long as deep. Scales longitudinally striated, 30–33 $\frac{5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Dark olive above, the scales blackish at the base, white beneath.

Total length 285 millim.

Lake Gandjule (Margherita).

1–3. Ad. & hgr., types. L. Gandjule. Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).

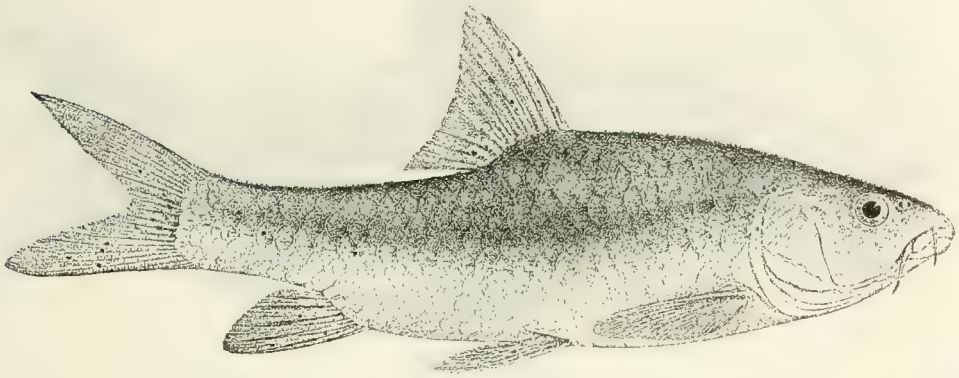
26. BARBUS GUDARICUS.

Boulenger, Ann. & Mag. N. H. (7) xvii. 1906, p. 564, and Fish. Nile, p. 214, pl. xxxvi. fig. 2 (1907).

Depth of body $3\frac{2}{3}$ times in total length, length of head $3\frac{4}{5}$ to 4 times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye 5 to 6 times in length of head, interorbital width 3 times; mouth inferior, its width 4 to 5 times in length of head; lips well developed, lower continuous across chin and forming a small rounded median lobe; two barbels on each side, anterior a little longer than eye, posterior $1\frac{1}{3}$ to $1\frac{1}{2}$ diameters of eye. Dorsal IV 9, equally distant from eye and from root of caudal, border concave; last simple ray very strong, bony, not serrated,

nearly straight, $\frac{3}{5}$ to $\frac{3}{4}$ length of head. Anal III 5, sometimes reaching root of caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 28–30 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$

Fig. 21.



Barbus gudaricus.
Type (F. N.). $\frac{1}{2}$.

between lateral line and ventral, 12 round caudal peduncle. Dark olive above, silvery white beneath.

Total length 265 millim.

Gudar River (Blue Nile), Wondinak River (Omo), Southern Ethiopia.

1–2. Types.	Gudar R., 3400 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
3. Type.	Metti R., affluent of Gudar R., 3500 ft.	,,
4. Ad.	Wondinak R., 3000 ft.	,,

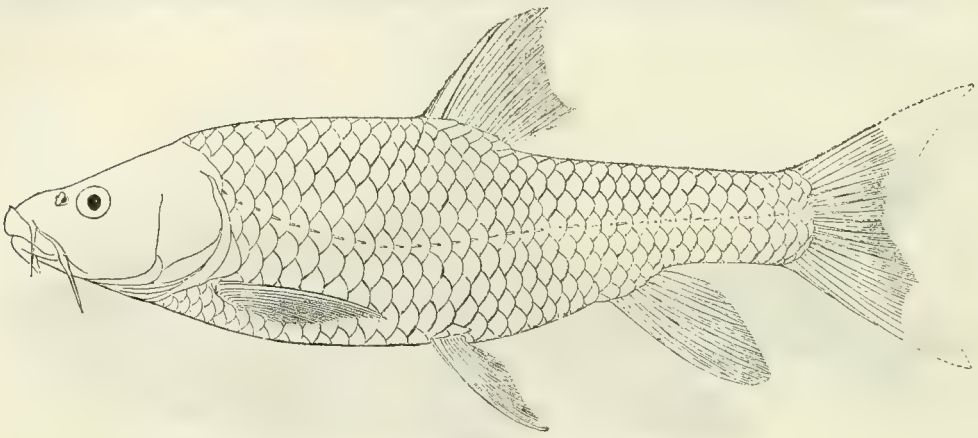
21. BARBUS MENTO.

Boulenger, Ann. & Mag. N. H. (7) x. 1902, p. 434.

Depth of body equal to length of head, $3\frac{3}{4}$ times in total length. Snout rounded, 3 times in length of head; eye 6 times in length of head, interorbital width 3 times; mouth inferior, its width 4 times in length of head; lips very strongly developed, lower produced into a subtriangular median lobe which is as long as eye; anterior barbel $1\frac{1}{2}$, posterior $1\frac{2}{3}$ diameters of eye. Dorsal IV 8, its distance from occiput a little less than its distance from caudal, border concave; last simple ray very strong, bony, not serrated, slightly curved, $\frac{1}{2}$ length of head. Anal III 5, reaching root of caudal. Pectoral $\frac{3}{4}$ length of head, not

reaching ventral; latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 35 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3 between

Fig. 22.



Barbus mento.
Type. $\frac{2}{3}$.

lateral line and ventral, 12 round caudal peduncle. Olive above, yellowish beneath; fins greyish.

Total length 300 millim.

Gota River (Hawash), Southern Ethiopia.

1. Type. Gota R. at Marmasa, Adal, 5000 ft. Mr. E. Degen (C.).

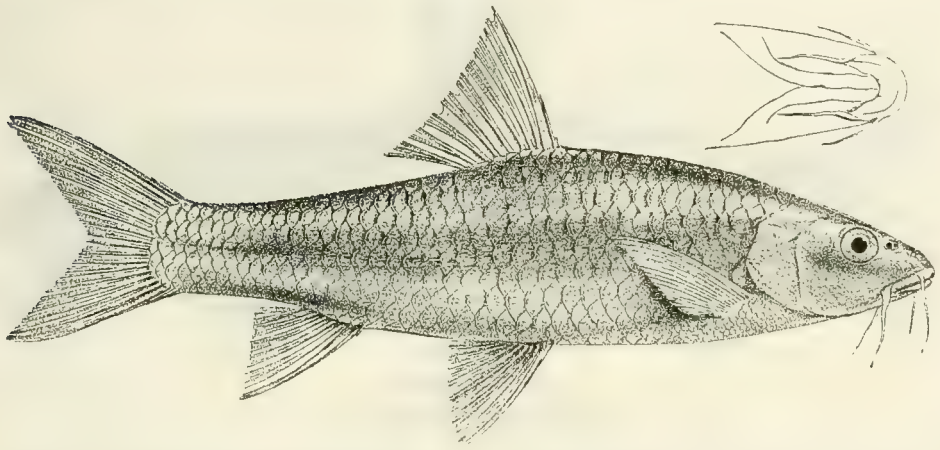
22. BARBUS REINII.

Günth. Ann. & Mag. N. H. (4) xiii. 1874, p. 231, pl. xiii., and Nov. Zool. ix. 1902, p. 447.

Depth of body equal to or a little less than length of head, $3\frac{1}{2}$ to 4 times in total length. Snout rounded, 3 to $3\frac{1}{3}$ times in length of head; eye 4 (young) to 8 times in length of head, interorbital width $2\frac{1}{2}$ to 3 times; mouth inferior, its width 3 to $4\frac{1}{2}$ times in length of head; lips well developed, lower continuous across the chin, forming a short rounded lobe; two barbels on each side, subequal, or posterior a little longer than anterior and 2 to 3 diameters of eye ($1\frac{1}{3}$ to $1\frac{3}{4}$ in young). Dorsal III–IV 8, equally distant from occiput or eye and from root of caudal, border concave; last simple ray strong, bony, not serrated, its ossified part about $\frac{1}{2}$ length of head in adult, $\frac{2}{3}$ to $\frac{3}{4}$ in young. Anal III 5, usually not reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated,

27–32 $\frac{4\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Olive-brown above, yellowish beneath; fins yellowish.

Fig. 23.



Barbus reinii.
Type, after Günther (Ann. & Mag. N. H. 1874).

Total length 550 millim.
Morocco.

1–3. Hgr. & yg., types.	R. Tensift.	Prof. Rein & Dr. C. v. Fritsch (P.).
4–5. Hgr.	Oum Erbiah.	Dr. E. Hartert (P.).
6–7, 8–17. Ad., hgr., & yg.	„	Mr. F. W. Riggenbach (C.).
18. Skel.	„	„
19–28. Hgr. & yg.	R. Talmist.	„
29–32. Yg.	R. Shishawa.	„

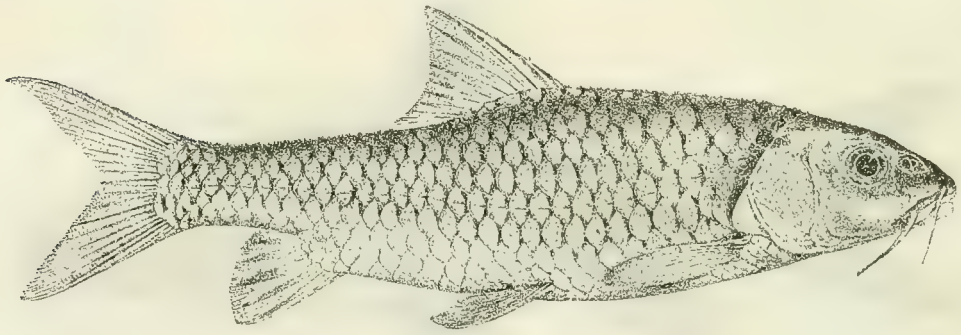
23. BARBUS BATESII.

Boulenger. Proc. Zool. Soc. 1903, i. p. 25, pl. iii. fig. 2; Pellegr. Bull. Soc. Philom. (10) xii. 1909, p. 47.

Depth of body equal to length of head, or slightly greater, $3\frac{2}{3}$ times in total length. Snout rounded or obtusely pointed, 3 times in length of head; eye $3\frac{1}{2}$ (young) to 6 times in length of head, interorbital width $2\frac{3}{4}$ to 3 times; mouth subinferior, its width $3\frac{1}{2}$ to 4 times in length of head; lips well developed, lower continuous across chin; two barbels on each side, subequal, nearly twice as long as eye. Dorsal IV 9, equally distant from eye or occiput and from root of caudal, border feebly concave; last simple ray strong, bony, not serrated, $\frac{1}{2}$ to $\frac{2}{3}$ length of head (nearly as long as head in young). Anal III 5, sometimes

reaching caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 27–30 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3

Fig. 24.



Barbus batesii.
Type (P. Z. S. 1903). $\frac{1}{2}$.

between lateral line and ventral, 12 round caudal peduncle. Brown above, scales darker at the base, yellowish or white beneath; fins greyish.

Total length 340 millim.

Kribi River, South Cameroon; Ogowe.

1. Type.	Kribi R.	G. L. Bates, Esq. (C.).
2–7. Ad., hgr., & yg.	„	„

24. BARBUS EUMYSTUS.

Boulenger, Ann. & Mag. N. H. (7) xvii. 1906, p. 565, and Fish. Nile, p. 215, pl. xxxviii. fig. 1 (1907).

Depth of body equal to length of head, nearly 4 times in total length. Snout rounded, 3 times in length of head; eye 5 times in length of head, interorbital width a little over 3 times; mouth inferior, its width $4\frac{1}{2}$ times in length of head; lips well developed, lower continuous across chin and forming a small rounded median lobe; two barbels on each side, equal, $2\frac{1}{3}$ diameters of eye. Dorsal IV 9, equally distant from præoperculum and from caudal, border strongly concave; last simple ray strong, bony, not serrated, straight, $\frac{5}{6}$ length of head. Anal III 5, nearly reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 31 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle.

Dark olive above, silvery white beneath; caudal yellowish, other fins greyish.

Total length 225 millim.

Fig. 25.

Barbus eumystus.
Type (F. N.). $\frac{1}{2}$.

Juju River (Upper Blue Nile), Southern Ethiopia.

1. Type.	Juju R., affluent of Didessa R., 2000 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).

25. BARBUS GREGORII.

Barbus intermedius (non Rüpp.), Günth. Proc. Zool. Soc. 1894, p. 91.

Barbus gregorii, Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 422, and xvii. 1906, p. 564.

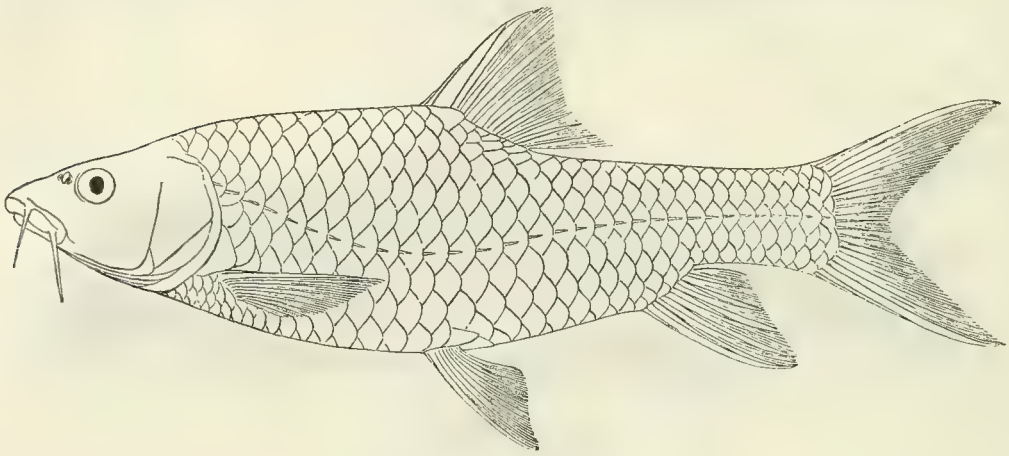
Barbus neuvillii, Pellegr. Bull. Mus. Paris, 1905, p. 293.

Depth of body equal to or a little greater than length of head, $3\frac{1}{3}$ to $3\frac{3}{4}$ times in total length. Snout rounded or subacuminate, 3 to $3\frac{1}{2}$ times in length of head; eye 4 (young) to 7 times in length of head, interorbital width $3\frac{1}{4}$ to $3\frac{2}{3}$ times; mouth inferior, its width $3\frac{1}{2}$ to $4\frac{1}{2}$ times in length of head; lips much developed, lower uninterrupted and produced into a more or less developed, rounded median lobe; two barbels on each side, anterior $1\frac{1}{3}$ to $1\frac{3}{4}$ diameters of eye, posterior $1\frac{1}{2}$ to 2. Dorsal III–IV 8–9, equally distant from occiput or eye and from root of caudal, border concave; last simple ray very strong, bony, not serrated, $\frac{2}{5}$ to $\frac{3}{4}$ length of head. Anal III 5, reaching or nearly reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{4}{5}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Scales longitudinally striated, 29–34 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12–14 round caudal peduncle. Olive-brown above, silvery white beneath.

Total length 330 millim.

Upper Tana and Upper Hawash to Rift Valley Basin, East Africa.

Fig. 26.



Barbus gregorii.
Barja R. $\frac{5}{12}$.

1. Type.	Kiroruma (Upper Tana), Leikipia.	Prof. J. W. Gregory (P.).
2–4. Types.	G. el Narua (Baringo), Leikipia.	,,
5–6. Types.	G. Nyuki (Naiwasha), Njemps Ndogo.	,,
7. Skel.	Kibwesi R. (Athi).	,,
8. Ad.	Ergino R. (Omo), 3000 ft.	Mr. P. C. Zaphiro (C.) ; W. N. McMillan, Esq. (P.).
9–10. Ad. & hgr.	Zendo R. (Omo), 4300 ft.	,,
11. Ad.	L. Gandjule (Margherita), 3000 ft.	,,
12. Hgr.	Alaba R. (L. Gandjule).	,,
13. Ad.	Suja R. (L. Stephanie), 4200 ft.	,,
14–17. Ad. & hgr.	Barja R. (L. Stephanie), 4250 ft.	,,
18–19. Ad. & hgr.	Maki R. (L. Zwai), 4000 ft.	,,
20. Ad.	Hawash R. at Zekuala, 4100 ft.	,,
21, 22. Ad. & hgr.	Gota R. (Hawash) at Marmasa, 4000 ft.	Mr. E. Degen (C.).

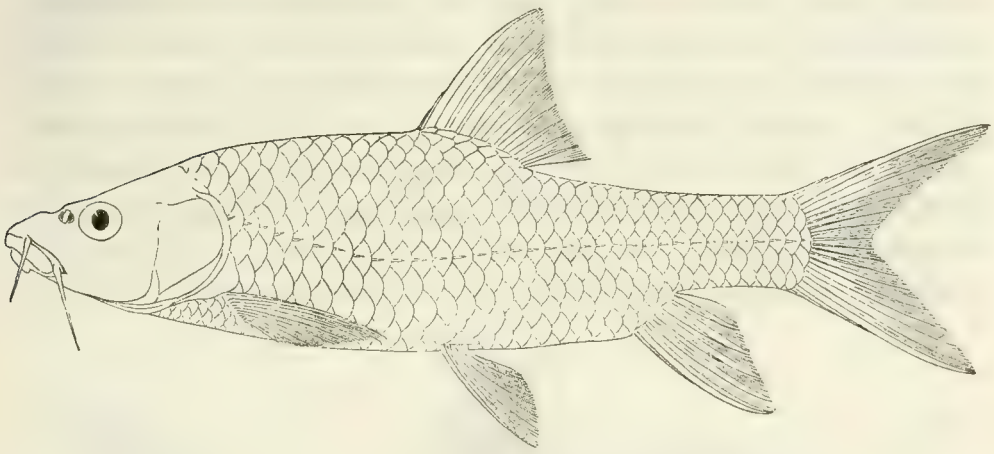
26. BARBUS HURSENSIS.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 434.

Depth of body equal to length of head, $3\frac{3}{4}$ or 4 times in total length. Snout obtusely conical, 3 times in length of head; eye 5 times in length

of head, interorbital width $3\frac{1}{4}$ times; mouth inferior, its width 4 times in length of head; lips strongly developed, lower forming a rounded

Fig. 27.



Barbus hursensis.
Type. $\frac{5}{9}$.

median lobe; anterior barbel $1\frac{1}{2}$, posterior 2 diameters of eye. Dorsal III 8–9, a little nearer occiput than root of caudal, border concave; last simple ray strong, bony, not serrated, curved, $\frac{3}{5}$ or $\frac{2}{3}$ length of head. Anal II 5, reaching root of caudal. Pectoral $\frac{4}{5}$ or $\frac{5}{6}$ length of head, not reaching ventral; base of latter somewhat posterior to origin of dorsal. Caudal peduncle $1\frac{1}{3}$ or $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 32–34 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 12–14 round caudal peduncle. Olive above, golden on the sides; fins yellowish green.

Total length 210 millim.

Hurso River (Hawash System), Southern Ethiopia.

1–2. Types. Hurso R., Upper Adal, 7000 ft. Mr. E. Degen (C.).

27. BARBUS AFFINIS.

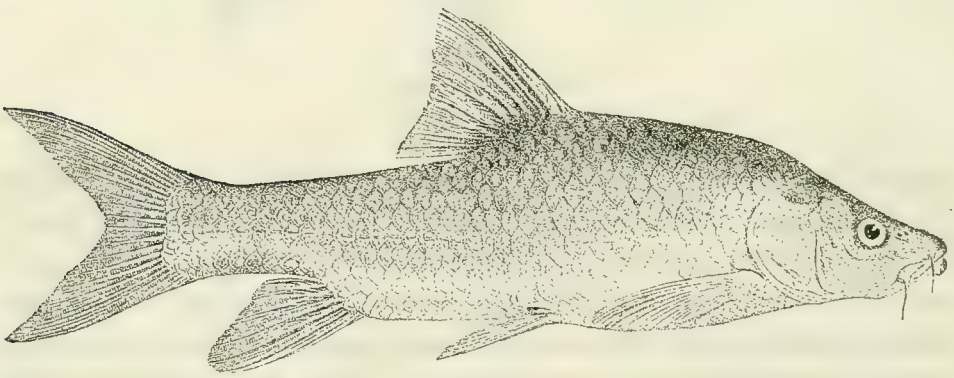
Rüpp. Mus. Senckenb. ii. p. 8, pl. i. fig. 3 (1837); Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 425, and Fish. Nile, p. 216, pl. xxxix. fig. 1 (1907).

Depth of body $3\frac{1}{2}$ to 4 times in total length, length of head $3\frac{2}{3}$ to $4\frac{1}{2}$ times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye 4 (young) to $6\frac{2}{3}$ times in length of head, interorbital width $3\frac{1}{2}$ to 4 times; mouth terminal or subinferior, its width 4 to 5 times in length of head; lips well developed, lower continuous across chin and sometimes forming a short rounded lobe; two barbels on each side, subequal or anterior a

little shorter than posterior, which measures 1 to $1\frac{1}{2}$ diameters of eye. Dorsal IV 8–9, a little nearer occiput than caudal, border feebly concave; last simple ray very strong, bony, not serrated, straight or very slightly curved, $\frac{1}{2}$ to $\frac{5}{6}$ length of head. Anal III 5, sometimes reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{5}{6}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{4}{5}$ times as long as deep. Scales longitudinally striated, 31–37 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Blue, green, or olive above, scales sometimes dark-edged, yellow or yellowish white beneath; fins green.

Total length 410 millim.

Fig. 28.



Barbus affinis.
L. Tsana (F. N.). $\frac{1}{3}$.

Lake Tsana and upper affluents of Blue Nile and Hawash, Lake Zwai, Basin of Lakes Abaia and Stephanie.—Type in Senckenberg Museum, Frankfort (M.).

1–3. Ad. & hgr.	Bahardar and Zegi, L. Tsana.	Mr. E. Degen (C.).
4. Skel.	Bahardar, L. Tsana.	,,
5–7. Ad. & hgr.	Gafersa, Maki R., 5000 ft.	,,
8–9. Hgr.	Buggali, Maki R., 4000 ft.	,,
10. Hgr.	Didessa R., 1500 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
11. Ad.	Taddecha-Mullka, Kassam R., 4000 ft.	Mr. E. Degen (C.).
12–14. Ad.	Awhorra-Mullka, Kassam R., 4000 ft.	,,
15. Hgr.	Hurso R., Upper Adal, 7000 ft.	,,

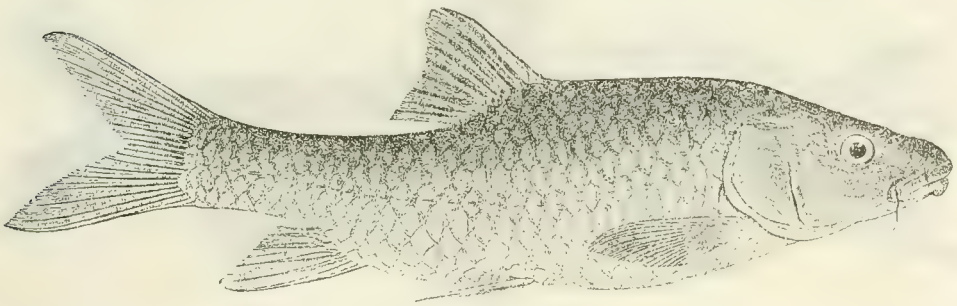
16–18. Hgr. & yg.	Zeissi R., L. Gandjule, 3000 ft.		Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
19–21. Hgr.	Elgo R.,	„ „	„
22. Hgr.	Sire R.,	„ „	„

28. BARBUS BREVIBARBIS.

Boulenger. Ann. & Mag. N. H. (7) x. 1902, p. 431, and Fish. Nile, p. 219, pl. xxxv. fig. 2 (1907).

Depth of body $3\frac{1}{2}$ to $3\frac{3}{4}$ times in total length, length of head $3\frac{1}{3}$ to $3\frac{1}{2}$ times. Snout rounded, 3 times in length of head; eye 4 (young) to $6\frac{1}{3}$ times in length of head, interorbital width $3\frac{1}{4}$ to $3\frac{3}{4}$ times; mouth

Fig. 29.



Barbus brevibarbis.
Type (F. N.). $\frac{1}{3}$.

inferior, its width $4\frac{1}{2}$ times in length of head; lips much developed, lower forming a short rounded median lobe; two barbels on each side, anterior $\frac{2}{3}$ to $\frac{3}{4}$ diameter of eye, posterior as long as eye. Dorsal IV 9, equally distant from occiput and from caudal, or a little nearer former, border concave; last simple ray very strong, bony, not serrated, straight or very slightly curved, $\frac{2}{5}$ to $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral about $\frac{2}{3}$ length of head, not reaching ventral; base of latter below or slightly posterior to origin of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 31–33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Bluish olive above, yellowish beneath; fins dark slaty grey.

Total length 350 millim.

Lake Tsana, Abyssinia.

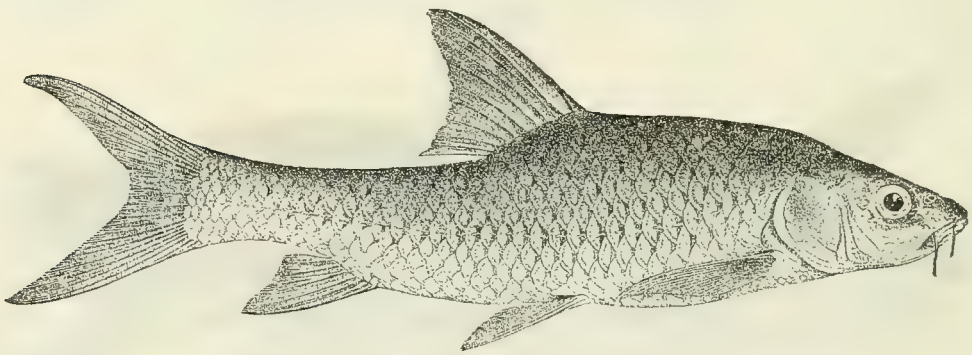
1. Ad., type.	Zegi.	Mr. E. Degen (C.).
2–4. Hgr. & yg., types.	Bahardar.	„

29. BARBUS LEPTOSOMA.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 432, and Fish. Nile, p. 220, pl. xl. fig. 1 (1907).

Depth of body $3\frac{3}{4}$ to $4\frac{1}{2}$ times in total length, length of head 4 to $4\frac{1}{4}$ times. Snout rounded, $3\frac{1}{5}$ to $3\frac{1}{2}$ times in length of head; eye 4 to $4\frac{2}{3}$ times in length of head, interorbital width $3\frac{1}{5}$ to $3\frac{1}{3}$ times; mouth inferior, its width 4 to 5 times in length of head; lips moderately developed, lower continuous across chin; two barbels on each side, subequal, as long as eye or a little shorter. Dorsal III 8–9, nearer occiput than caudal, border concave; last simple ray very strong, bony, not serrated, straight or slightly

Fig. 30.



Barbus leptosoma.
Type (F. N.). $\frac{1}{2}$.

curved, as long as or a little longer, or slightly shorter, than head. Anal III 5, not reaching caudal. Pectoral $\frac{4}{5}$ to $\frac{7}{8}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle twice or nearly twice as long as deep. Scales longitudinally striated, 30–35 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Silvery, tinged with blue, back darker; fins whitish, tinged with crimson.

Total length 225 millim.

Lake Tsana and upper affluents of Blue Nile, Abyssinia.

1–3. Types.	Zegi, L. Tsana.	Mr. E. Degen (C.).
4. Hgr.	Jûju R., flowing into Didessa R., 2000 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).

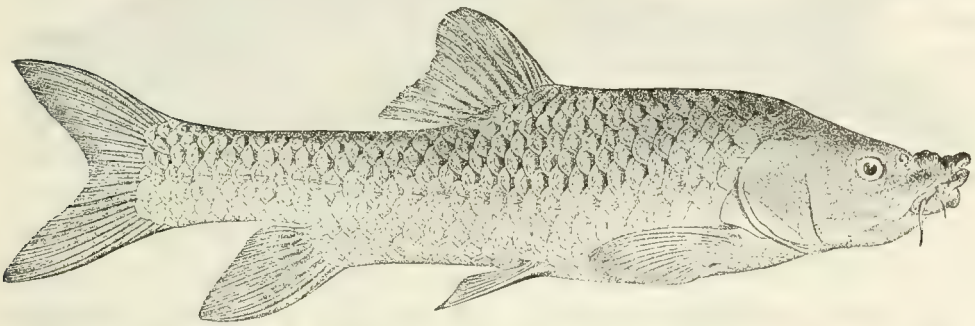
30. BARBUS DEGENI.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 435, and Fish. Nile, p. 222, pl. xli. fig. 1 (1907).

Depth of body $3\frac{2}{3}$ to $4\frac{1}{3}$ times in total length, length of head $3\frac{1}{2}$ to

$3\frac{3}{4}$ times. Snout pointed, $2\frac{1}{2}$ to 3 times in length of head; eye 5 to $8\frac{1}{2}$ times in length of head, interorbital width $3\frac{1}{2}$ times; snout produced into a triangular dermal flap overhanging the lip; mouth inferior, its width $4\frac{1}{2}$ to $5\frac{1}{2}$ times in length of head; lips very strongly developed, lower produced into a rounded median lobe which measures $\frac{1}{2}$ to $\frac{2}{3}$ diameter of eye; anterior barbel 1 to $1\frac{1}{3}$ diameters of eye, posterior $1\frac{1}{5}$ to $1\frac{1}{2}$. Dorsal IV 9, a little nearer occiput than caudal, border concave; last simple ray very strong, bony, not serrated, straight or slightly curved, $\frac{1}{3}$ to $\frac{2}{3}$ length of head. Anal III 5, reaching or nearly reaching caudal. Pectoral $\frac{3}{5}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter below

Fig. 31.



Barbus degeni.
Type (F. N.). $\frac{1}{4}$.

anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 31–35 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Dark slate-colour above, sides dark green, belly yellowish green; caudal green, other fins steel-grey.

Total length 450 millim.

Lake Tsana, Abyssinia.

1–4. Ad. & hgr., types. Zegi and Bahardar. Mr. E. Degen (C.).

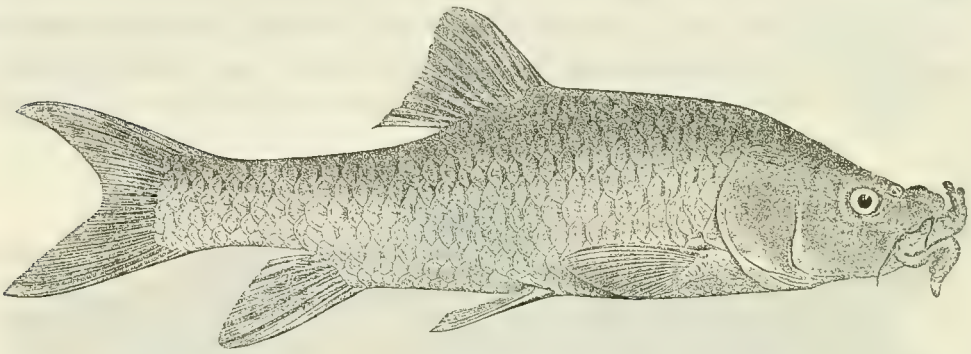
31. BARBUS NEDGIA.

Labeobarbus nedgia, Rüpp. Mus. Senckenb. ii. p. 14, pl. ii. fig. 3 (1837).
Barbus nedgia, Günth. Cat. Fish. vii. p. 104 (1868); Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 426, and Fish. Nile, p. 223, pl. xli. fig. 2 (1907).

Depth of body $3\frac{1}{2}$ to $4\frac{1}{5}$ times in total length, length of head $3\frac{1}{4}$ to $3\frac{3}{4}$ times. Snout pointed, $2\frac{1}{3}$ to 3 times in length of head; eye 4 (young) to 8 times in length of head, interorbital width $3\frac{1}{4}$ to $3\frac{2}{3}$ times; mouth inferior, its width $4\frac{1}{2}$ to $5\frac{1}{2}$ times in length of head; lips very

strongly developed, both upper and lower produced into a rounded or subtriangular lobe which is nearly as long as or longer than eye; anterior barbel 1 to $1\frac{1}{2}$ diameters of eye, posterior 1 to $1\frac{3}{4}$. Dorsal IV 8–9, equally distant from occiput and from caudal, or a little nearer former, border more or less distinctly concave; last simple ray very strong, bony, not serrated, straight or slightly curved, $\frac{1}{3}$ to nearly once length of head.

Fig. 32.



Barbus nedgia.
L. Tsana (F. N.). $\frac{1}{4}$.

Anal III 5, often reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales longitudinally striated, 29–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12–14 round caudal peduncle. Olive or greenish grey above, yellow or yellowish beneath; fins olive or grey, sometimes tinged with pink.

Total length 520 millim.

Lake Tsana, Upper Tributaries of Blue Nile, Omo River, Sagan River, Lake Gandjule (Margherita).—Type in Senckenberg Museum, Frankfort (M.).

1. Ad.	Zegi, L. Tsana.	Mr. E. Degen (C.).
2–5. Ad., hgr., & yg.	Zegi and Bahardar, L. Tsana.	,,
6. Skel.	Bahardar, L. Tsana.	,,
7. Hgr.	Mogre R., Shoa.	,,
8–9. Hgr. & yg.	Didessa R., 1500 ft.	Mr. P. C. Zaphiro (C.).; W. N. McMillan, Esq. (P.).
10. Hgr.	Gibe R., Omo, 2800 ft.	,,
11–12. Hgr.	Sagan R. at Wondo, 2800 ft.	,,
13–17. Hgr.	Gato R., affl. of Sagan R., 3700 ft.	,,

18. Ad.	Zuja R., affl. of Sagan R., 4200 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
19. Hgr.	L. Gandjule, 3000 ft.	,,

32 BARBUS COMPINEI.

Barynotus compinei, Sauv. Bull. Soc. Philom. (7) iii. 1878, p. 102, and N. Arch. Mus. (2) iii. 1880, p. 51, pl. i. fig. 4.

Barbus compinei, Bouleng. Ann. & Mag. N. H. (7) xvi. 1905, p. 44.

Depth of body 4 times in total length, length of head $3\frac{1}{2}$ times. Snout rounded, about $2\frac{1}{2}$ times in length of head; eye $7\frac{1}{2}$ times in length of head, interorbital width a little less than 3 times; lips well developed, lower continuous; two barbels on each side, posterior the longer and a little longer than eye. Dorsal IV 10, nearer occiput than caudal, border concave; last simple ray moderately strong, bony, not serrated, shorter than head. Anal III 5, not reaching caudal. Pectoral shorter than head, not reaching ventral; base of latter a little behind vertical of origin of dorsal. Caudal peduncle about twice as long as deep. Scales longitudinally striated, 30 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 10 round caudal peduncle. Purplish grey, scales bluish at the base; fins grey.

Total length 730 millim.

Ogowe. — Type (stuffed) in Paris Museum. — I am indebted to Dr. Pellegrin for notes supplementing the original description of this species.

33. BARBUS LINNELLI.

Lönnb. Ann. & Mag. N. H. (7) xiii. 1904, p. 138.

Depth of body $3\frac{1}{2}$ to 4 times in total length, length of head $3\frac{1}{4}$ to $3\frac{1}{2}$ times. Snout rounded, $2\frac{1}{2}$ times, or slightly more, in length of head; eye 6 to $6\frac{1}{2}$ times in length of head, interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times; mouth inferior; lips well developed, lower continuous across the chin; two barbels on each side, anterior 1 to $1\frac{1}{5}$ diameters of eye, posterior $1\frac{1}{3}$. Dorsal III 8, nearer occiput than caudal, border concave; last simple ray rather strong, bony, not serrated, slightly curved, a little more than $\frac{1}{2}$ length of head. Anal III 5. Pectoral about $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 26–27 $\frac{4\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle.

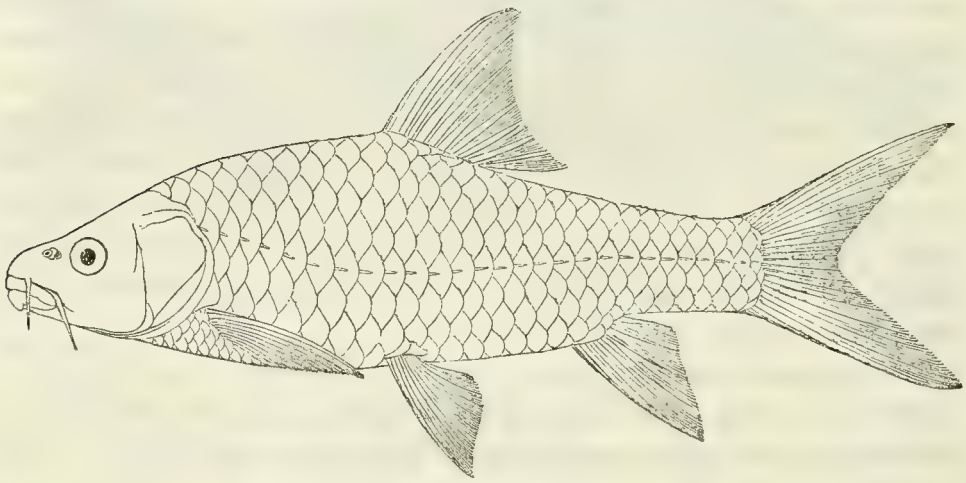
Total length 435 millim.

Elephant Lake, Cameroon Mountain.—Types in Gothenburg Museum.

34. BARBUS KRAPFI, sp. n.

Depth of body 3 to $3\frac{1}{3}$ times in total length, length of head $3\frac{1}{2}$ to $3\frac{4}{5}$ times. Snout rounded, $3\frac{1}{3}$ to $3\frac{2}{3}$ times in length of head; eye $3\frac{1}{2}$ (young) to $5\frac{1}{3}$ times in length of head, interorbital width 3 times; mouth inferior; lips well developed, lower continuous across the chin; two barbels on each side, anterior 1 to $1\frac{1}{3}$ diameters of eye, posterior $1\frac{1}{3}$ to $1\frac{1}{2}$ (not longer than eye in young). Dorsal III–IV 9 (rarely 8), equally distant from occiput and from caudal, border concave; last

Fig. 33.



Barbus krapfi.
Type. $\frac{1}{2}$.

simple ray strong, bony, not serrated, straight or feebly curved, $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Anal III 5, reaching or nearly reaching caudal. Pectoral as long as or slightly shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle about $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 25–27 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Brown above, the scales darker at the base, yellowish white beneath; fins greyish.

Total length 205 millim.

Niro-Narok River System, flowing into Lorian Swamp, and Upper Athi River, British East Africa.

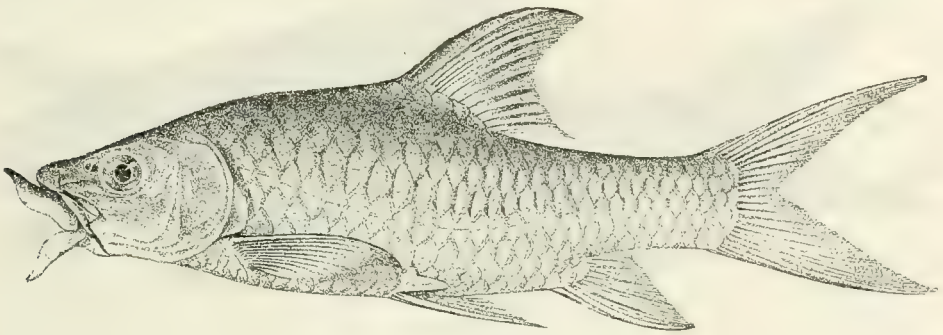
1–3. Types.	Niro-Narok System, 4000–5000 ft.	S. L. Hinde, Esq. (P.).
4–8. Yg.	Simba R., trib. of Athi R., 3000 ft.	A. Blayney Percival, Esq. (P.).

35. BARBUS LABIATUS.

Barbus (Labeobarbus) labiatus, Bouleng. Proc. Zool. Soc. 1902, ii. p. 223, pl. xvii. fig. 1.

Depth of body a little greater than length of head, $3\frac{1}{3}$ times in total length. Snout obtusely pointed, not projecting beyond mouth, 3 times in length of head; eye $5\frac{1}{2}$ times in length of head, interorbital width $2\frac{3}{4}$ times; width of mouth 4 times in length of head; lips extremely developed, each produced into a long triangular flap; two barbels on

Fig. 34.



Barbus labiatus.
Type (P. Z. S. 1902). $\frac{1}{2}$.

each side, anterior as long as eye, posterior slightly longer. Dorsal IV 9, equally distant from occiput and from root of caudal, border concave; last simple ray very strong, bony, not serrated, curved, $\frac{3}{4}$ length of head. Anal III 5, nearly reaching caudal. Pectoral nearly as long as head, reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 28–29 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Dark olive-brown above, whitish beneath; fins grey.

Total length 270 millim.

Mathoiya River (Tana System), Kenya district, British East Africa.

1. Type. Mathoiya R. S. L. Hinde, Esq. (P.).

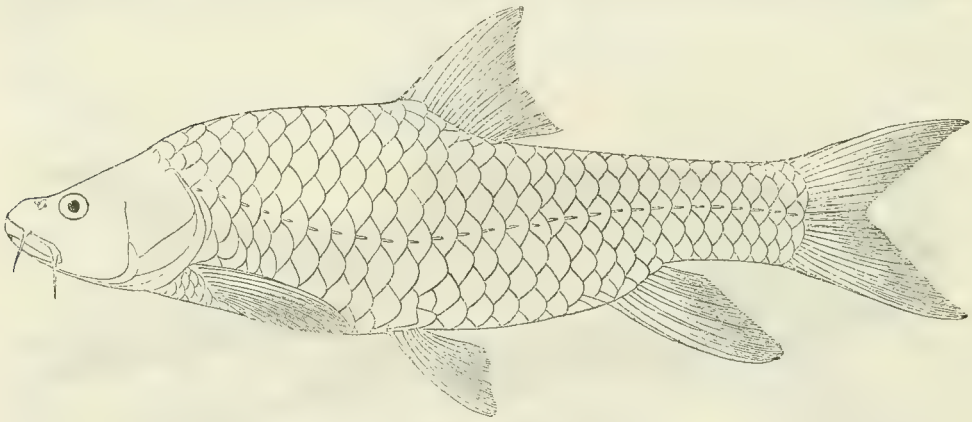
36. BARBUS ALTICOLA.

Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 566.

Depth of body $3\frac{1}{4}$ to $3\frac{1}{2}$ times in total length, length of head 4 times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye 6 to $6\frac{1}{2}$ times in

length of head, interorbital width 3 times; mouth inferior, its width 4 times in length of head; lips moderate, lower continuous across chin; two barbels on each side, anterior $1\frac{1}{3}$ to $1\frac{1}{2}$ diameters of eye, posterior $1\frac{2}{3}$ to $1\frac{3}{4}$. Dorsal IV 9, equally distant from occiput and from caudal, or slightly nearer former, border strongly concave; last simple ray very strong, bony, not serrated, feebly curved, $\frac{2}{3}$ length of head. Anal III 5, reaching caudal. Pectoral a little shorter than head, not reaching

Fig. 35.



Barbus alticola.
Type. $\frac{1}{3}$.

ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 28–29 $\frac{11\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 10–12 round caudal peduncle. Silvery grey above, the scales darker at the base, white beneath.

Total length 300 millim.

Alaba River, flowing into Lake Gandjule (Margherita).

1–2. Types. Alaba R., 6000 ft. Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).

37. BARBUS HINDII.

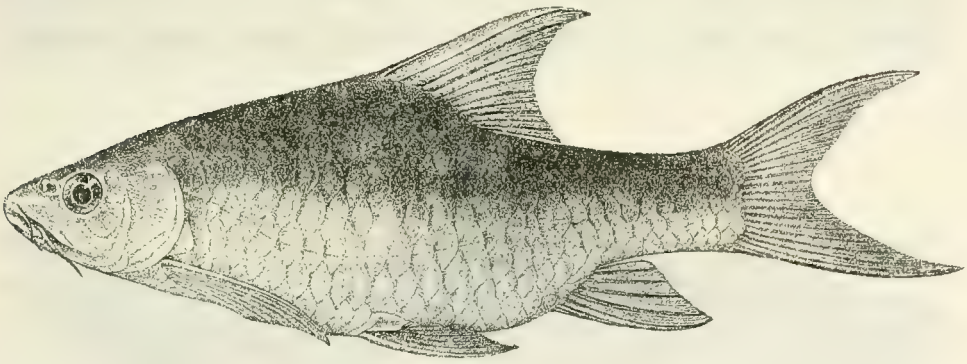
Barbus tanensis, part., Günth. Proc. Zool. Soc. 1894, p. 90.

Barbus hindii, Bouleng. Proc. Zool. Soc. 1902, ii. p. 222, pl. xvi. fig. 1; Pellegr. Mém. Soc. Zool. France, xvii. 1905, p. 177; Lönnb. Kilim.-Meru Exped., Fish. p. 5 (1907).

Depth of body $2\frac{2}{3}$ to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to $4\frac{1}{3}$ times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye 4

(young) to 6 times in length of head, interorbital width $2\frac{1}{3}$ to 3 times; mouth inferior, its width 3 to 4 times in length of head; lips moderately developed, lower continuous across chin (rarely interrupted); two barbels on each side, anterior as long as eye or a little longer, posterior 1 to $1\frac{1}{2}$ diameters of eye. Dorsal III–IV 9–10, equally distant from occiput or eye and from caudal, border concave; last simple ray very strong, bony, not serrated, straight or very feebly curved, nearly as long as

Fig. 36.



Barbus hindii.
Type (P. Z. S. 1902). $\frac{3}{5}$.

head or a little longer in young. Anal III 5, reaching or nearly reaching caudal. Pectoral as long as or a little shorter than head, usually nearly reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 24–29 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 10–12 round caudal peduncle. Olive-brown above, silvery below; fins greyish.

Total length 420 millim.

Tana, Athi, and Pangani River Systems, East Africa.

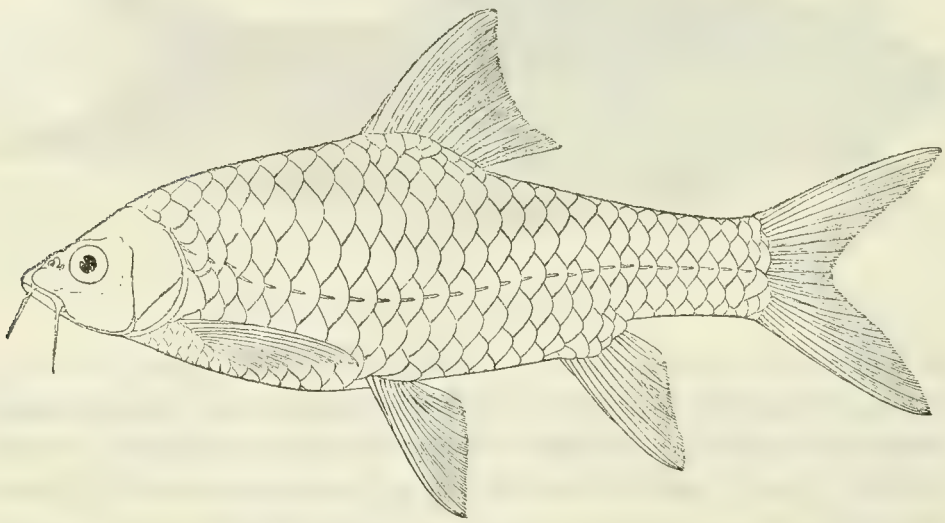
1–4. Types.	Mathoiya R. (Tana), 4000 ft.	S. L. Hinde, Esq. (P.).
5–14. Yg.	,, ,,	,,
15–27. Ad. & hgr.	Athi R.	C. B. S. Storey, Esq. (P.).
28, 29–31. Hgr. (Types of *B. tanensis.*)	Kibwesi R. (Athi).	Prof. J. W. Gregory (P.).
32–34. Yg. (Types of *B. tanensis.*)	G. el Narua (Baringo).	,,

38. BARBUS TANENSIS.

Günth. Proc. Zool. Soc. 1894, p. 90, pl. xi. (part.).

Depth of body $2\frac{1}{2}$ to 3 times in total length, length of head $4\frac{1}{3}$ to $4\frac{2}{3}$ times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye 4 to $4\frac{1}{2}$ times in length of head, interorbital width $2\frac{1}{4}$ to $2\frac{1}{2}$ times; mouth inferior, its width 3 to 4 times in length of head; lips well developed, lower continuous across chin; two barbels on each side, anterior $1\frac{1}{4}$ to $1\frac{1}{2}$ diameters of eye, posterior $1\frac{2}{3}$ to 2. Dorsal III–IV 9–10, equally distant from occiput or eye and from root of caudal, border concave;

Fig. 37.



Barbus tanensis.
Type. $\frac{1}{3}$.

last simple ray very strong, bony, not serrated, curved, as long as head or a little shorter ($\frac{4}{5}$). Anal III 5, reaching caudal. Pectoral as long as head or a little longer, reaching or nearly reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 25–28 $\frac{4\frac{1}{2}}{3\frac{1}{2}-4\frac{1}{2}}$, $1\frac{1}{2}$–2 between lateral line and ventral, 10–12 round caudal peduncle. Olive-brown above, whitish beneath; fins sometimes blackish.

Total length 330 millim.

Thikathika River, Upper Tana, East Africa.

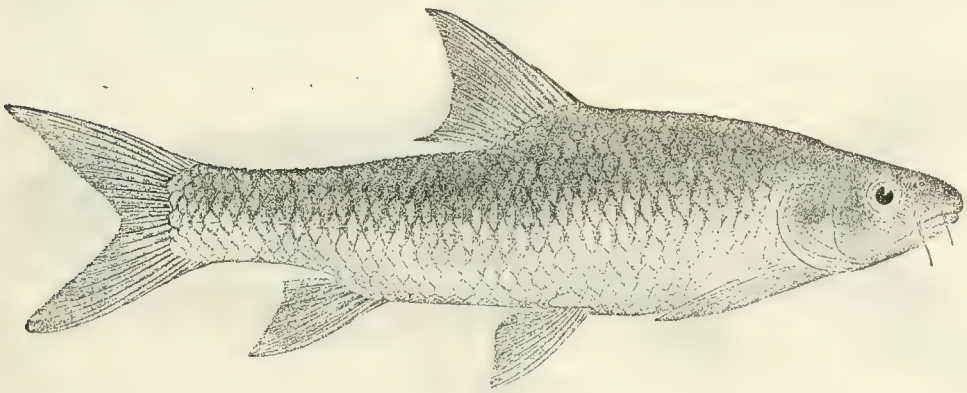
1–6. Types.	Thikathika R.	Prof. W. J. Gregory (P.).
7. Skel.	,,	,,

39. BARBUS FERGUSSONII.

Bouleng. Ann. & Mag. N. H. (7) viii. 1901, p. 12, and Fish. Nile, p. 230, pl. xliii. fig. 1 (1907).

Depth of body $3\frac{2}{3}$ to $4\frac{1}{2}$ times in total length, length of head 4 to $4\frac{1}{2}$ times. Snout rather pointed, 3 times in length of head; eye 5 to $5\frac{1}{2}$ times in length of head, interorbital width 3 times; mouth inferior, its width 5 times in length of head; lips moderate, lower interrupted on the chin; two barbels on each side, anterior a little shorter than eye, posterior a little longer. Dorsal IV 9, nearer occiput than caudal, border concave; last simple ray very strong, bony, not serrated, scarcely

Fig. 38.



Barbus fergussonii.
Type (F. N.). $\frac{5}{8}$.

curved, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal III 5, nearly reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 36–37 $\frac{7\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Dark olive-brown above, lighter beneath, the scales darker at the base.

Total length 235 millim.

Lake Albert Edward.

1–2. Types. L. Albert Edward. Prof. J. E. S. Moore (C.).

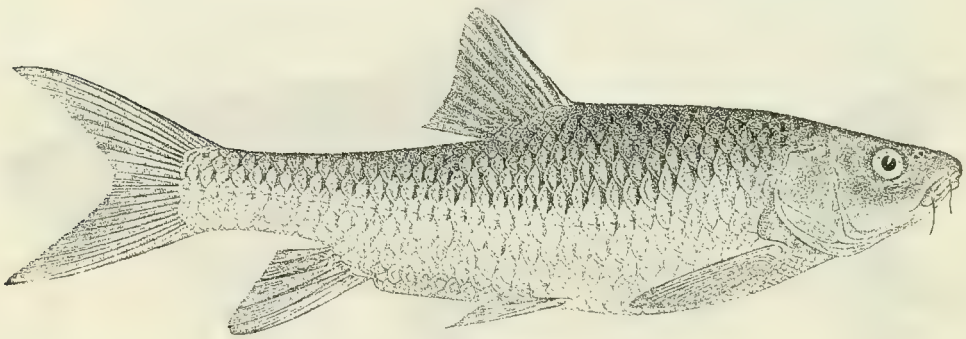
40. BARBUS INTERMEDIUS.

Rüpp. Mus. Senckenb. ii. p. 7, pl. i. fig. 2 (1837); Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 424, and Fish. Nile, p. 228, pl. xxxix. fig. 2 (1907).

Depth of body $3\frac{1}{3}$ to 4 times in total length, length of head $3\frac{3}{4}$ to $4\frac{1}{2}$

times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye $3\frac{1}{2}$ (young) to 6 times in length of head, interorbital width $2\frac{2}{3}$ to $3\frac{1}{4}$ times; mouth inferior, its width 4 to 5 times in length of head; lips moderate, lower interrupted on chin; two barbels on each side, anterior $\frac{2}{3}$ (young) to $1\frac{1}{2}$ diameters of eye, posterior 1 to $1\frac{2}{3}$ (less in the young). Dorsal IV 8–9, a little nearer occiput than caudal, border concave; last simple ray very strong, bony, not serrated, $\frac{1}{2}$ to $\frac{3}{4}$ length of head in adult, nearly as long as head or even longer in young. Anal III 5, often reaching caudal. Pectoral as long as or a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to 2 times as long as deep. Scales longitudinally striated, 30–38 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3

Fig. 39.



Barbus intermedius.
L. Tsana (F. N.). $\frac{1}{3}$.

between lateral line and ventral, 12 (rarely 14) round caudal peduncle. Olive or green above, yellow or pinkish beneath; fins brown or olive, caudal sometimes green.

Total length 400 millim.

Lake Tsana and upper tributaries of Blue Nile, Omo and Lake Abaia basins.—Type in Senckenberg Museum, Frankfort (M.).

1–5. Ad. & hgr.	Zegi, L. Tsana.	Mr. E. Degen (C.).
6–11, 12–21. Ad., hgr., & yg.	Bahardar and Zegi, L. Tsana.	,,
22. Skel.	L. Tsana.	,,
23–24. Hgr.	Didessa R., 1500 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
25. Hgr.	Juju R., affl. of Didessa R., 2000 ft.	,,
26–27. Hgr. & yg.	Urgessa R., affl. of Didessa R., 2300 ft.	,,

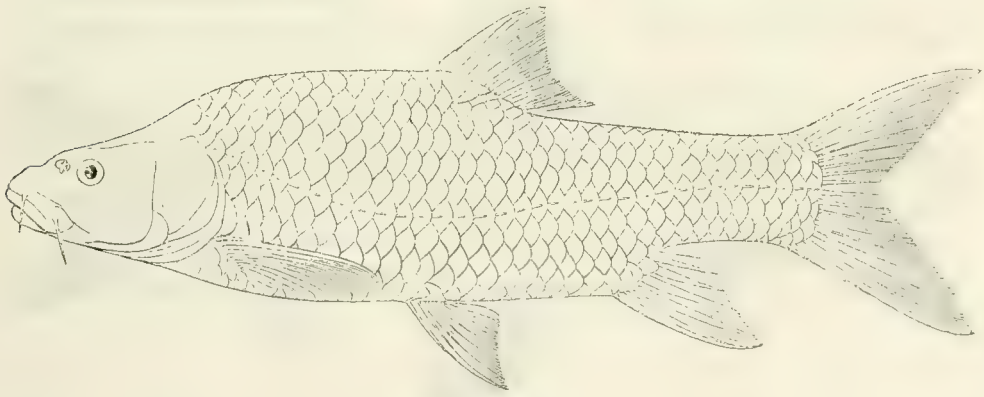
28. Hgr.	Ergino R., affl. of Omo R., 3000 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
29–30. Hgr.	Sire R., at its mouth (L. Abaia), 3000 ft.	„
31. Ad.	Zeissi R. (L. Abaia), 3000 ft.	„
32. Hgr.	Ganda R., Gamu (L. Gandjule), 3000 ft.	„

41. BARBUS HARRINGTONII.

Boulenger, Ann. & Mag. N. H. (7) x. 1902, p. 428.

Depth of body equal to length of head, $3\frac{1}{2}$ times in total length. Snout rounded, a little more than $\frac{1}{3}$ length of head; eye 8 times in length of head, interorbital width 3 times; mouth large, subinferior, its

Fig. 40.



Barbus harringtonii.
Type. $\frac{1}{4}$.

width 3 times in length of head; lips moderately developed, lower interrupted on the chin; two barbels on each side, anterior $1\frac{1}{3}$, posterior $1\frac{1}{2}$ diameters of eye. Dorsal IV 9, equally distant from occiput and from root of caudal, border concave; last simple ray strong, bony, not serrated, feebly curved, nearly $\frac{1}{2}$ length of head. Anal III 5, nearly reaching root of caudal. Pectoral $\frac{4}{5}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 34 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Olive above, whitish beneath; fins greyish.

Total length 500 millim.

Hawash River, Southern Ethiopia.

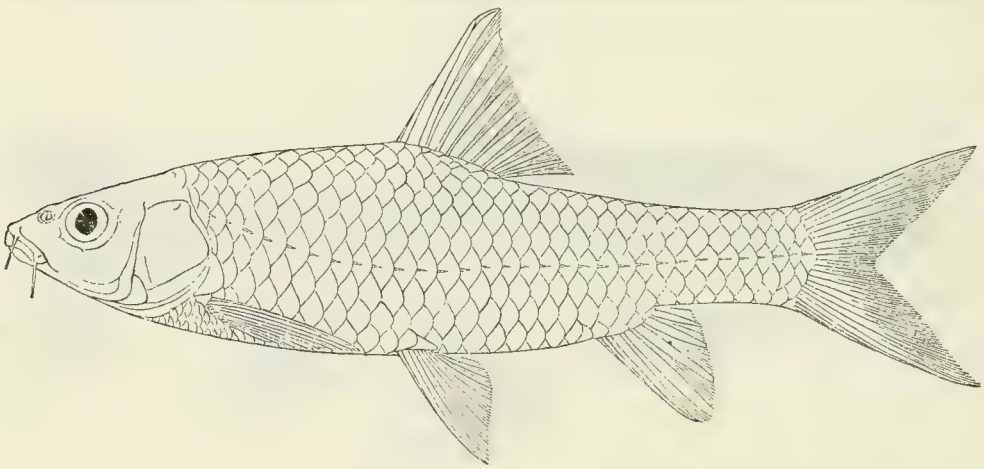
1. Type.	Hawash R. at Warrar, 4000 ft.	Mr. E. Degen (C.).

42. BARBUS JARSINUS.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 429.

Depth of body equal to length of head, $3\frac{1}{2}$ to $3\frac{3}{4}$ times in total length. Snout rounded, 3 times in length of head; eye $3\frac{1}{2}$ to $4\frac{1}{2}$ times in length of head, interorbital width 3 times; mouth inferior, its width 4 times in length of head; lips moderately developed, lower interrupted on the chin; two barbels on each side, anterior $\frac{3}{4}$ to 1 diameter of eye, posterior 1 to $1\frac{1}{4}$. Dorsal IV 9 (rarely 8), nearer occiput than root of caudal, border feebly concave; last simple ray strong, bony, not serrated, straight,

Fig. 41



Barbus jarsinus.
Type.

$\frac{2}{3}$ to $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 31–34 $\frac{5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12–14 round caudal peduncle. Olive-brown above, silvery on the sides and below; a darker streak along each side of the back; axil of pectoral and of ventral and base of anal bright orange.

Total length 115 millim.

Jerrer River (Webi Shebeli System), Southern Ethiopia.

1–10. Types. Jerrer R. near Harrar, 6000 ft. Mr. E. Degen (C.).

43. BARBUS ILGI.

Pellegr. Bull. Mus. Paris, 1905, p. 293.

Depth of body $3\frac{1}{3}$ times in total length, length of head 4 times. Snout broadly rounded, 3 times in length of head; eye $4\frac{1}{2}$ times in length of head, interorbital width 3 times; mouth inferior; lower lip interrupted on the chin; two barbels on each side, anterior $\frac{2}{3}$ diameter of eye, posterior $\frac{3}{4}$. Dorsal IV 9, equally distant from occiput and from root of caudal; last simple ray strong, bony, not serrated, $\frac{4}{5}$ length of head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 30 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Olive above, silvery beneath.

Total length 195 millim.

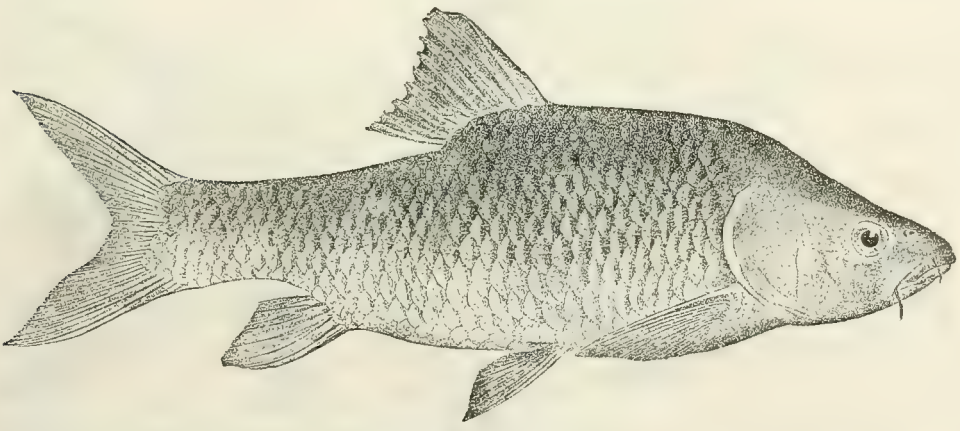
Akaki River (Hawash), Southern Ethiopia.—Type in Paris Museum.

44. BARBUS EDUARDIANUS.

Boulenq. Ann. & Mag. N. H. (7) viii. 1901, p. 12, and Fish. Nile, p. 231, pl. xliii. fig. 2 (1907).

Depth of body $3\frac{1}{3}$ times in total length, length of head $3\frac{2}{3}$ times. Snout rounded, $3\frac{1}{3}$ times in length of head; eye $6\frac{1}{2}$ times in length of

Fig. 42.



Barbus eduardianus.
Type (F. N.). $\frac{1}{4}$.

head, interorbital width $2\frac{1}{2}$ times; mouth inferior, its width 4 times in length of head; lips moderate, interrupted on chin; two barbels on each side, subequal, a little shorter than eye. Dorsal III 9, a little

nearer caudal than occiput, border slightly concave; last simple ray very strong, bony, not serrated, straight, $\frac{1}{2}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, nearly reaching ventral; latter originating a little in advance of dorsal. Caudal peduncle $1\frac{3}{5}$ times as long as deep. Scales longitudinally striated, 35 $\frac{6\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Olive-brown above, golden beneath, the scales darker at the base.

Total length 430 millim.

Lake Albert Edward.

1. Type. L. Albert Edward. Prof. J. E. S. Moore (C.).

45. BARBUS EURYSTOMUS.

Barbus intermedius, var. *eurystomus*, *latirostris*, *brevicauda*, Keilhack, Sitzb. Ges. naturf. Fr. Berl. 1908, p. 166.

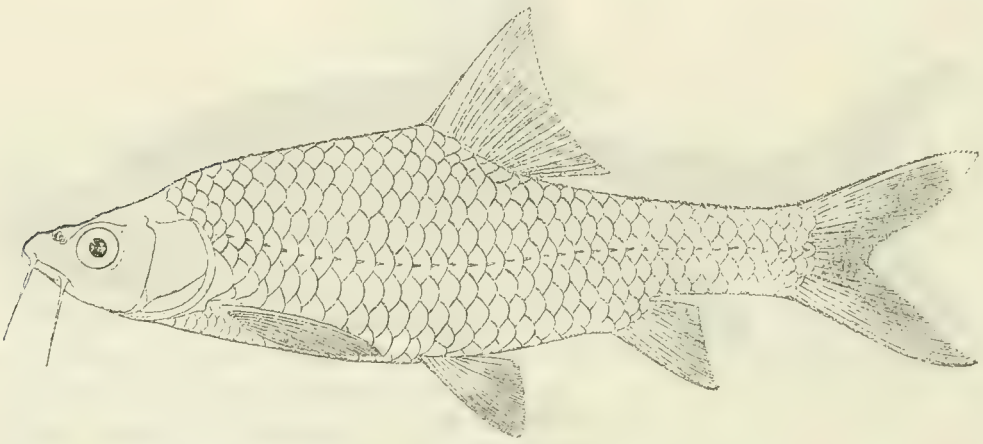
Described as not specifically separable from *B. intermedius*, but with wider mouth ($2\frac{1}{3}$ to 3 times in length of head) and interorbital region (2 to $2\frac{1}{2}$ times in length of head). Scales 30–41 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$.

Lake Nyassa.—Types in Berlin Museum.

46. BARBUS ZUAICUS.

Boulenger, Ann. & Mag. N. H. (7) xvii. 1906, p. 562.

Fig. 43.



Barbus zuaicus.
Type. $\frac{2}{3}$.

Depth of body $3\frac{2}{3}$ times in total length, length of head 4 times. Snout rather pointed, $3\frac{1}{3}$ times in length of head; eye 4 times in length

of head, interorbital width $3\frac{1}{3}$ times; mouth inferior, its width $4\frac{1}{2}$ times in length of head; lips moderately developed, lower interrupted on the chin; two barbels on each side, equal in length, twice diameter of eye. Dorsal IV 10, equally distant from occiput and from root of caudal; last simple ray very strong, bony, straight, $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle nearly twice as long as deep. Scales longitudinally striated, 33 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Dark olive above, silvery white beneath.

Total length 190 millim.

Lake Zwai, Southern Ethiopia.

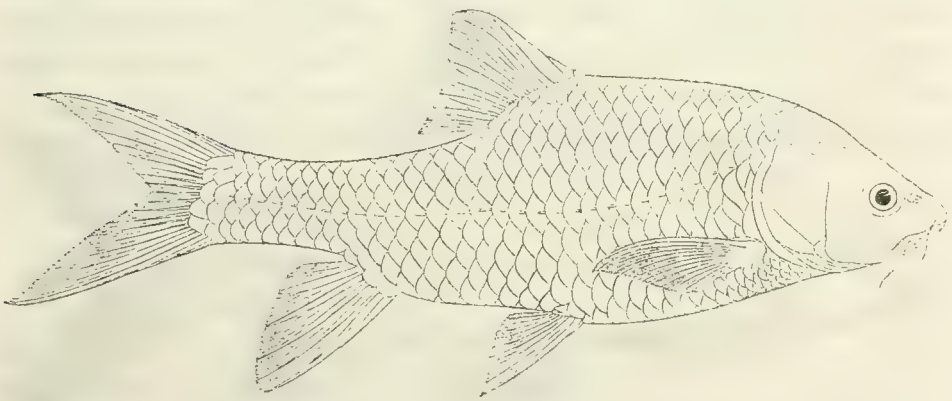
1. Type.	L. Zwai.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).

47. BARBUS SURKIS.

Rüpp. Mus. Senckenb. ii. p. 5, pl. i. fig. 1 (1837); Boulenger, Ann. & Mag. N. H. (7) x. 1902, p. 424, and Fish. Nile, p. 226, pl. xlii. (1907).

Depth of body $2\frac{2}{3}$ to 3 times in total length, length of head $3\frac{3}{4}$ to

Fig. 11.



Barbus surkis.
Lake Tsana. $\frac{1}{2}$.

$4\frac{1}{2}$ times. Snout broad, rounded, $3\frac{1}{5}$ to $3\frac{1}{2}$ times in length of head; eye $4\frac{1}{3}$ to 6 times in length of head, interorbital width $2\frac{1}{2}$ to 3 times; mouth subinferior, its width 4 to $4\frac{1}{2}$ times in length of head; lips moderately developed, lower broadly interrupted on chin; two barbels on each side, anterior $1\frac{1}{6}$ to $1\frac{3}{4}$ diameters of eye, posterior $1\frac{1}{2}$ to $1\frac{3}{4}$. Dorsal IV 8–9, equally distant from occiput and from caudal, border concave; last

simple ray very strong, bony, not serrated, nearly straight, $\frac{3}{5}$ to $\frac{4}{5}$ length of head. Anal III 5, reaching caudal in adult. Pectoral a little shorter than head, nearly reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 31–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Green, olive, or yellow above, yellowish or whitish beneath, fins grey or pinkish.

Total length 380 millim.

Lake Tsana and upper tributaries of Blue Nile.—Type in Senckenberg Museum, Frankfort (M.).

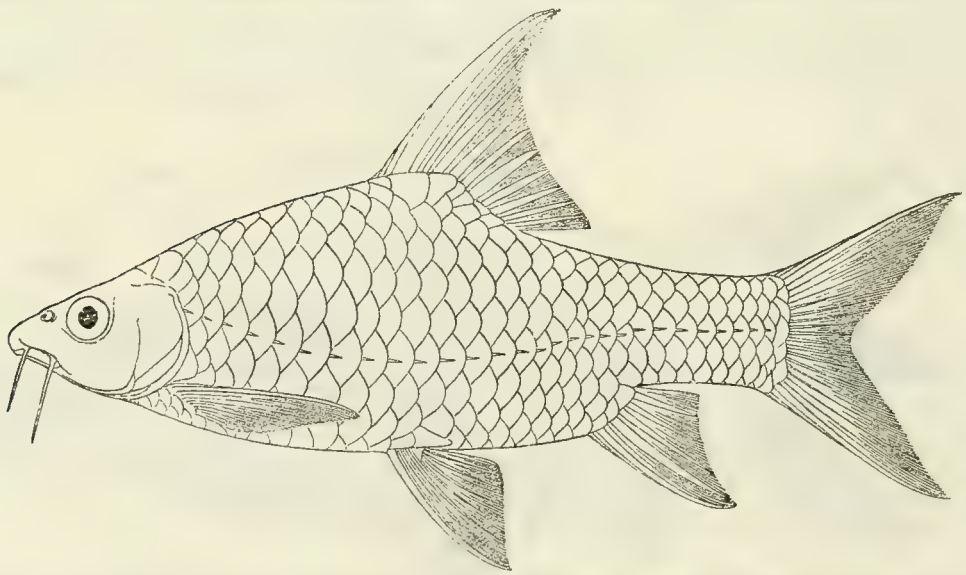
1. Ad.	Zegi, L. Tsana.	Mr. E. Degen (C.).
2–5. Hgr.	Didessa R.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).

48. BARBUS MATHOIÆ, sp. n.

Barbus tanensis (non Günth.), Bouleng. Proc. Zool. Soc. 1902, ii. p. 222.

Depth of body $2\frac{2}{3}$ times in total length, length of head $4\frac{1}{4}$ times.

Fig. 45.



Barbus mathoiæ.
Type. $\frac{1}{2}$.

Snout obtusely pointed, 3 times in length of head, little shorter than postocular part of head; eye 4 times in length of head, interorbital width 3 times; mouth inferior, its width 4 times in length of head;

lips moderately developed, lower broadly interrupted on the chin; two barbels on each side, anterior $1\frac{3}{3}$ diameters of eye, posterior 2. Dorsal IV 10, equally distant from occiput and from caudal, border concave; last simple ray very strong, bony, not serrated, slightly curved, $1\frac{1}{5}$ times length of head. Anal III 5, reaching caudal. Pectoral as long as head, nearly reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle slightly longer than deep. Scales longitudinally striated, 28 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Brownish above, whitish beneath; fins whitish.

Total length 220 millim.

Mathoiya River, Upper Tana, British East Africa.

1. Ad. Mathoiya R., Kenya District, 4000 ft. S. L. Hinde, Esq. (P.).

49. BARBUS MENELIKI.

Pellegr. Bull. Mus. Paris, 1905, p. 293.

Depth of body $2\frac{3}{4}$ times in total length, length of head 4 times. Snout 3 times in length of head, eye 4 times, interorbital width nearly 3 times; mouth inferior; lower lip interrupted on the chin; two barbels on each side, anterior $\frac{1}{2}$ diameter of eye, posterior $\frac{2}{3}$. Dorsal IV 9, equally distant from occiput and from root of caudal, last simple ray very strong, bony, not serrated, $1\frac{1}{4}$ times length of head. Anal III 5, not quite reaching caudal. Pectoral nearly as long as head; first ray of ventral anterior to origin of dorsal. Caudal peduncle nearly as long as deep. Scales longitudinally striated, 29 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Steel-blue above, white beneath.

Total length 235 millim.

Lake Rudolf.—Type in Paris Museum.

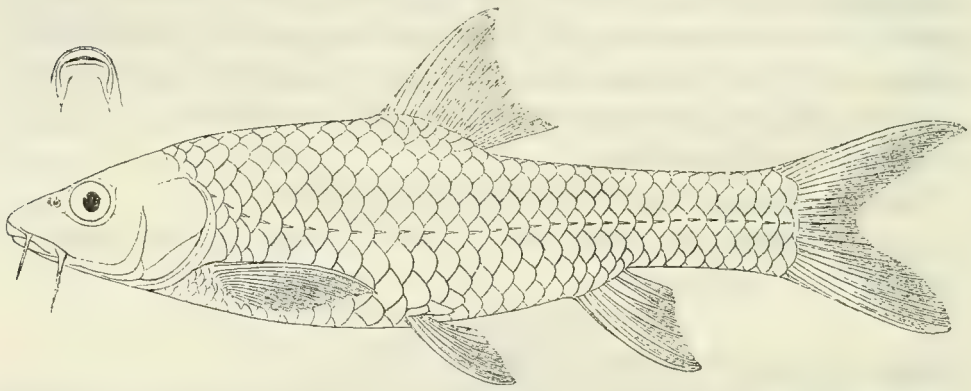
50. BARBUS MACMILLANI.

Boulenq. Ann. & Mag. N. H. (7) xvii. 1906, p. 562.

Depth of body equal to or a little less than length of head, $3\frac{1}{2}$ to 4 times in total length. Snout rounded, 3 times in length of head; eye $4\frac{1}{3}$ to $4\frac{1}{2}$ times in length of head, interorbital width $3\frac{1}{3}$ to $3\frac{1}{2}$ times; mouth inferior, forming a broken arch, a feebly curved transverse line in front, its width 4 times in length of head, lower jaw with a blunt keel, covered with a thin horny sheath; lower lip very feebly developed, confined to the sides; two barbels on each side, anterior 1 to $1\frac{1}{2}$ diameters of eye, posterior $1\frac{1}{5}$ to $1\frac{3}{5}$. Dorsal IV 8–9, equally distant from occiput

or eye and from caudal, border concave; last simple ray very strong, bony, not serrated, straight, $\frac{3}{5}$ to $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$

Fig. 46.



Barbus macmillani.
Type. $\frac{1}{2}$.

to $1\frac{3}{4}$ times as long as deep. Scales longitudinally striated, $30–33\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2–2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Dark olive above, the scales blackish at the base, silvery white beneath.

Total length 220 millim.

Lake Gandjule (Margherita).

1–4. Types. L. Gandjule. Mr. P. C. Zaphiro (C.).; W. N. McMillan, Esq. (P.).

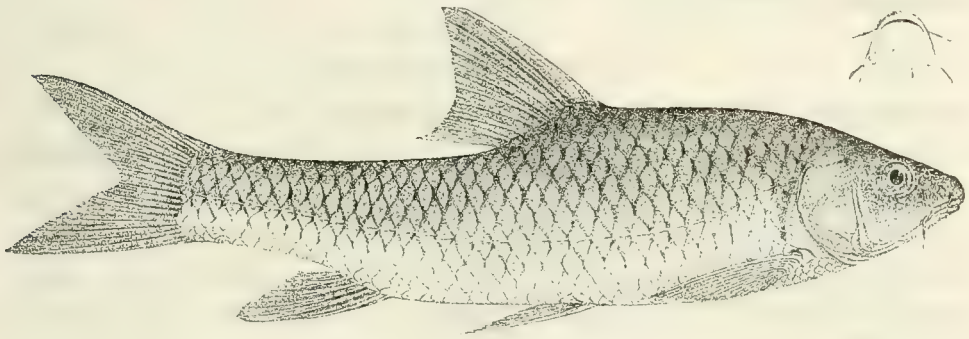
51. BARBUS PLAGIOSTOMUS.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 429, and Fish. Nile, p. 232, pl. xxxviii. fig. 2 (1907).

Depth of body $3\frac{1}{2}$ to 4 times in total length, length of head 4 to $4\frac{1}{2}$ times. Snout rounded, 3 to $3\frac{1}{3}$ times in length of head; eye $4\frac{1}{2}$ to $5\frac{1}{2}$ times in length of head, interorbital width $2\frac{2}{5}$ to $2\frac{2}{3}$ times; mouth inferior, forming a broken arch, a feebly curved transverse line in front, its width 3 to 4 times in length of head, lower jaw with a blunt keel covered with a thin horny sheath; lips very feebly developed, lower confined to the sides; two barbels on each side, anterior a little shorter than posterior, which is as long as or a little shorter than eye. Dorsal IV 9–10, nearer occiput than root of caudal, border concave; last simple ray very strong, bony, not serrated, as long as head or only $\frac{2}{3}$ its

length. Anal III 5, reaching or nearly reaching caudal. Pectoral as long as or a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ to $1\frac{3}{4}$ times as long as deep. Scales longitudinally striated, 33–34 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral

Fig. 47.



Barbus plagiostomus.
Type (F. N.). $\frac{1}{2}$.

line and ventral, 12–14 round caudal peduncle. Silvery, darker on the back, pectoral and ventral fins flesh-coloured.

Total length 310 millim.

Upper tributaries of the Blue Nile and Hawash; Lake Rudolf.

1–2. Types.	Kassam R. (Hawash) at Awharra Mullka, Shoa, 4000 ft.	Mr. E. Degen (C.).
3. Type.	Gota R. (Hawash) at Marmasa.	,,
4. Hgr.	Akaki R. (Hawash), 4500 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
5. Ad.	Gudar R. (Blue Nile), 3400 ft.	,,

52. BARBUS BINGERI.

Capoèta bingeri, Pellegr. Bull. Mus. Paris, 1905, p. 292.

Depth of body $3\frac{1}{3}$ times in total length, length of head $3\frac{4}{5}$ times. Snout rounded, 3 times in length of head; eye 5 times in length of head, interorbital width $2\frac{3}{4}$ times; mouth inferior, its width $2\frac{2}{3}$ times in length of head, lower jaw with a sharp edge, covered with a horny sheath; lips feebly developed, lower restricted to the sides; two barbels on each side, anterior a little shorter, posterior a little longer than eye. Dorsal IV 9, nearer root of caudal than eye; last simple ray strong, bony, not serrated, about $\frac{1}{2}$ length of head. Anal III 5, not reaching caudal. Pectoral a little shorter than eye, not reaching ventral.

Caudal peduncle $1\frac{1}{3}$ times as long as deep. Scales longitudinally striated, 30 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Olive above, lighter beneath.

Total length 250 millim.

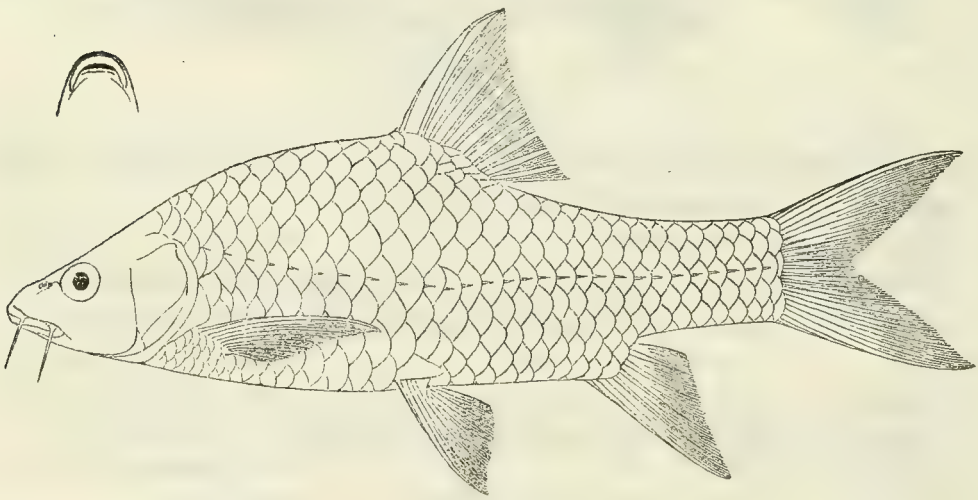
Burka River (Webi Shebeli), Southern Ethiopia.—Type in Paris Museum.

53. BARBUS BOTTEGI.

Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 563.

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head 4 to $4\frac{1}{3}$ times. Snout rounded, $3\frac{1}{4}$ to $3\frac{1}{2}$ times in length of head; eye 4 to 5

Fig. 48.



Barbus bottegi.
Type. $\frac{1}{2}$.

times in length of head, interorbital width $2\frac{2}{3}$ to 3 times; mouth inferior, forming a broken arch, a feebly curved transverse line in front, its width $3\frac{1}{2}$ to 4 times in length of head; lower jaw with a blunt keel, covered with a fine horny sheath; lips very feebly developed, confined to the sides; two barbels on each side, anterior $1\frac{1}{4}$ to $1\frac{1}{3}$ diameters of eye, posterior $1\frac{1}{3}$ to $1\frac{1}{2}$. Dorsal IV 9, border emarginate; last simple ray very strong, bony, not serrated, feebly curved, $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Anal III 5. Pectoral as long as head or a little shorter. Ventral below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 28–30 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Silvery, dorsal region darker, with

the scales dark-edged, lower parts pure white; fins greyish, or pectorals, ventrals, and anal reddish.

Total length 245 millim.

Omo River, Southern Ethiopia.

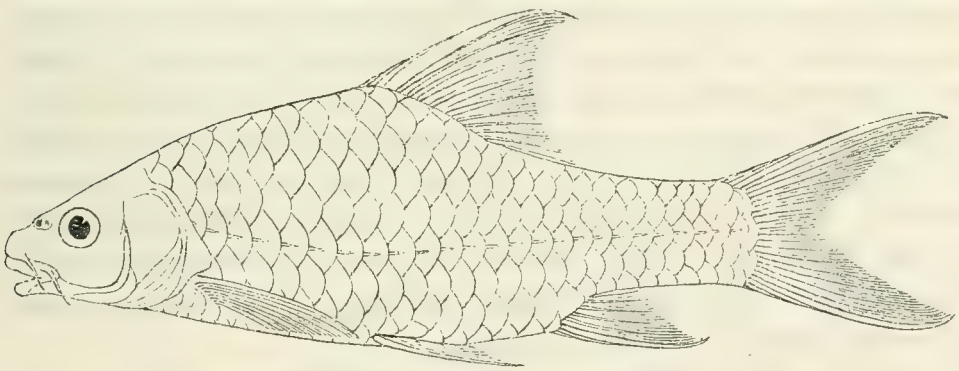
1–2. Types.	Omo R. at Kullo, 2000 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
3. Type.	Gibe R., Upper Omo, 2800 ft.	,,

54. BARBUS PERPLEXICANS.

Barbus (*Capoëta*) *perplexicans*, Boulenger, Proc. Zool. Soc. 1902, ii. p. 223, pl. xvi. fig. 2.

Depth of body 3 to $3\frac{1}{3}$ times in total length, length of head $3\frac{2}{3}$ to 4 times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye $2\frac{1}{2}$ to 4 times in length of head, interorbital width 3 times; mouth inferior, its width

Fig. 49.



Barbus perplexicans.
Type. $\frac{2}{3}$.

3 to $3\frac{1}{2}$ times in length of head; lips feebly developed, lower confined to the sides; lower jaw with a more or less angular horny sheath; two barbels on each side, subequal, as long as or a little shorter than eye. Dorsal IV 9–10, equally distant from eye or occiput and from caudal, border concave; last simple ray very strong, bony, not serrated, nearly straight, as long as or a little longer than head. Anal III 5, nearly reaching caudal. Pectoral nearly as long as head, narrowly separated from ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 25–30 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Olive-brown above, silvery white beneath; fins whitish.

Total length 190 millim.

Tana and Lorian Swamp basins, Kenya District, British East Africa.

1–2. Types.	Mathoiya R., Tana System, 4000 ft.	S. L. Hinde, Esq. (P.).
3–4. Yg.	Thika R., Tana System, 3000 ft.	,,
5–10. Ad. & hgr.	Niro-Narok System, emptying in Lorian Swamp.	,,
11. Skel.	,, ,,	,,

55. BARBUS PAGENSTECHERI.

J. G. Fischer, Jahrb. Hamb. Wiss. Anst. i. 1884, p. 30; Pfeff. Thierw. O.-Afr., Fisch. p. 65 (1896).

Depth of body equal to length of head, 4 times in total length. Snout rounded, $3\frac{1}{2}$ times in length of head; eye 5 to 6 times in length of head, interorbital width nearly 3 times; mouth inferior, its width $3\frac{1}{2}$ times in length of head; lips moderately developed, lower confined to the sides; lower jaw with straight transverse anterior border, with sharply angular horny sheath; two barbels on each side, equal, as long as eye. Dorsal IV 8, equally distant from eye and from caudal, border feebly concave; last simple ray strong, bony, not serrated, about $\frac{2}{3}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{4}{5}$ length of head, not reaching ventral; base of latter slightly further back than origin of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 28–29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral. Brown above, yellowish beneath; fins dark grey.

Total length 240 millim.—A larger specimen measures 430.

Stream flowing down Mount Kilimanjaro, German East Africa.—Type, in Hamburg Museum, examined.

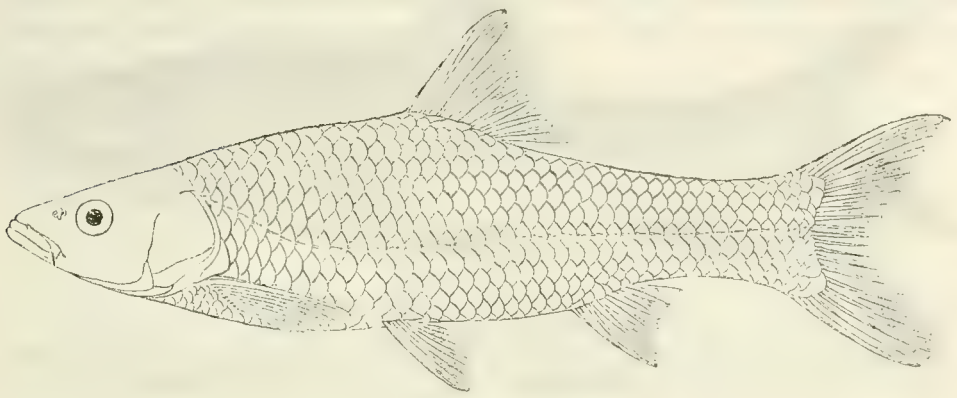
56. BARBUS RHOADESII.

Boulenger, Ann. & Mag. N. H. (8) ii. 1908, p. 238.

Depth of body $3\frac{2}{5}$ to $3\frac{2}{3}$ times in total length, length of head $3\frac{2}{3}$ to 4 times. Snout rounded, $3\frac{1}{4}$ to $3\frac{1}{3}$ times in length of head; eye 5 times in length of head, interorbital width $3\frac{2}{3}$ to 4 times; mouth terminal, its width 3 to $3\frac{1}{2}$ times in length of head; lower jaw slightly projecting; lips moderately developed, lower interrupted on the chin; two barbels on each side, anterior minute, posterior $\frac{1}{3}$ to $\frac{1}{2}$ diameter of eye. Dorsal IV 8, nearer occiput than root of caudal, border more or less concave; last simple ray very strong, bony, not serrated, straight, about $\frac{1}{2}$ length

of head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter immediately in front of origin of dorsal. Caudal peduncle $1\frac{2}{3}$ to $1\frac{3}{4}$ times as long as deep. Scales longitudinally striated, 37–40 $\frac{6\frac{1}{2}-7\frac{1}{2}}{6\frac{1}{2}}$, 3–$3\frac{1}{2}$ between lateral line and ventral,

Fig. 50.



Barbus rhoadesii.
Type. $\frac{1}{2}$.

16–18 round caudal peduncle. Olive to dark green above, white beneath.

Total length 325 millim.

Lake Nyassa.

1–6. Types. L. Nyassa. Capt. E. L. Rhoades (P.).

57. BARBUS PLATYSTOMUS.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 430, and Fish. Nile, p. 234, pl. xl. fig. 2 (1907).

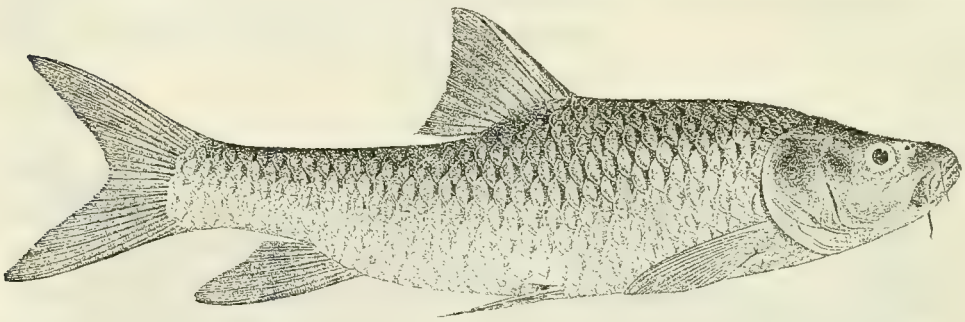
Depth of body $3\frac{1}{2}$ to $3\frac{4}{5}$ times in total length, length of head 4 to $4\frac{1}{4}$ times. Snout very broad, rounded, not quite $\frac{1}{3}$ length of head; eye 5 to 6 times in length of head, interorbital width $2\frac{3}{4}$ to 3 times; mouth large, terminal, its width 3 times in length of head; lips moderately developed, lower interrupted on chin; two barbels on each side, anterior as long as eye, posterior $1\frac{1}{4}$ to $1\frac{2}{5}$ diameters of eye. Dorsal IV 8–9, nearer occiput than caudal, border concave; last simple ray very strong, bony, not serrated, feebly curved, $\frac{3}{5}$ to $\frac{6}{7}$ length of head. Anal III 5, reaching or nearly reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter a little posterior to origin of dorsal. Caudal peduncle $1\frac{3}{4}$ times as long as deep. Scales longitudinally striated,

35–37 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Bluish or steel-blue above, whitish beneath; fins dark grey.

Total length 310 millim.

Lake Tsana, Abyssinia.

Fig. 51.



Barbus platystomus.
Type (F. N.). $\frac{2}{3}$.

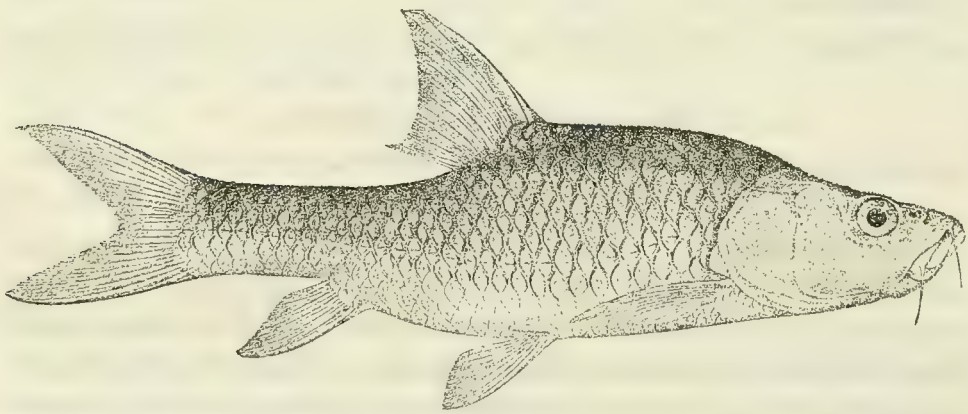
1–2. Types. Bahardar. Mr. E. Degen (C.).

58. BARBUS ZAPHIRI.

Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 563, and Fish. Nile, p. 235, pl. xlv. fig. 1 (1907).

Depth of body $3\frac{3}{5}$ times in total length, length of head $3\frac{1}{4}$ times.

Fig. 52.



Barbus zaphiri.
Type (F. N.). $\frac{1}{2}$.

Snout rounded, $3\frac{1}{2}$ times in length of head; eye 6 times in length of head, interorbital width 4 times; mouth terminal, its width 4 times in length of head, lower jaw slightly projecting; lips well developed, lower interrupted on chin; two barbels on each side, nearly equal, about $1\frac{1}{2}$

diameters of eye. Dorsal IV 9, equally distant from occiput and from caudal, border strongly concave; last simple ray very strong, bony, not serrated, feebly curved, about $\frac{2}{3}$ length of head. Anal III 5, not reaching caudal. Pectoral about $\frac{2}{3}$ length of head, nearly reaching ventral; latter originating slightly in front of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 31 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 14 round caudal peduncle. Dark olive above, silvery white beneath; fins greyish.

Total length 230 millim.

Didessa River (Blue Nile), Southern Ethiopia.

1. Type.	Didessa R.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).

59. BARBUS GORGUARI.

Rüpp. Mus. Senckenb. ii. p. 9, pl. i. fig. 4 (1837); Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 424, and Fish. Nile, p. 237, pl. xliv. (1907).

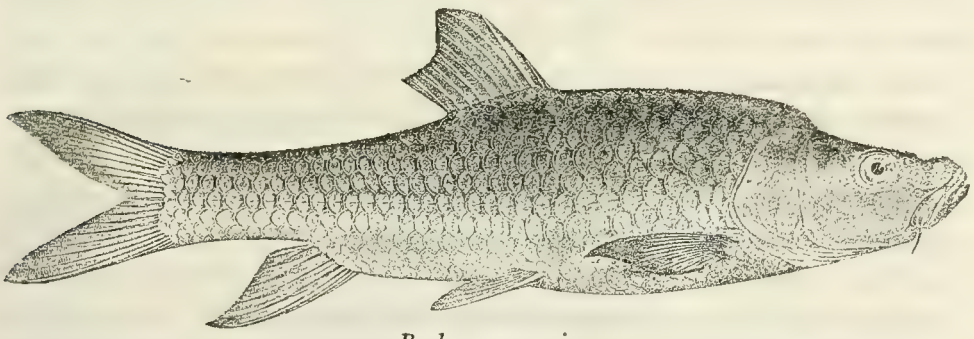
Barbus elongatus, Rüpp. t. c. p. 11, pl. ii. fig. 1.

Luciobarbus gorguari, Heck. Russegger's Reise Egypt. iii. p. 324 (1846)

Luciobarbus elongatus, Heck. l. c.

Depth of body $3\frac{3}{4}$ to $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{5}$ to $3\frac{5}{6}$ times. Snout rounded, $2\frac{1}{2}$ to $2\frac{2}{3}$ times in length of head; eye 4 (young) to 8 times in length of head, interorbital width $3\frac{2}{3}$ to 4 times; mouth terminal, or lower jaw projecting; lips well developed, lower interrupted

Fig. 53.



Barbus gorguari.
L. Tsana (F. N.). $\frac{1}{3}$.

on chin; two barbels on each side, as long as or shorter than eye. Dorsal III–IV 8–9, nearly equally distant from occiput and from caudal, border more or less distinctly concave; last simple ray strong, bony, not serrated, straight or feebly curved, $\frac{2}{5}$ to $\frac{2}{3}$ length of head. Anal III 5,

usually reaching caudal in adult. Pectoral $\frac{2}{3}$ to $\frac{4}{5}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales longitudinally striated, 32–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Green, blue, brownish yellow, coppery red, or blackish above, yellow or white beneath.

Total length 530 millim.

Lake Tsana, Abyssinia.—Types in Senckenberg Museum, Frankfort (M.).

1, 2–7, 8–13. Ad., hgr., & yg.	Zegi and Bahardar.	Mr. E. Degen (C.).
14. Skel.	L. Tsana.	,,

60. BARBUS OXYRHYNCHUS.

Pfeff. Jahrb. Hamb. Wiss. Anst. vi. 2, 1889, p. 18, and x. 2, 1893, p. 35, pl. i. fig. 2, and Thierw. O.-Afr., Fische, p. 64 (1896).

Depth of body equal to length of head, $3\frac{1}{3}$ to $3\frac{1}{2}$ times in total length. Snout rather pointed, as long as eye, which is 3 times in length of head (young); interorbital width also 3 times in length of head; mouth terminal, its width 4 times in length of head; lips feebly developed, lower interrupted on chin; two barbels on each side, anterior about $\frac{1}{2}$ diameter of eye, posterior about $\frac{2}{3}$. Dorsal IV 8, equally distant from eye and from caudal, border concave; last simple ray very strong, bony, not serrated, straight, as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 26–27 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Silvery, brownish on the back.

Total length 55 millim.

Rufu River (Pangani), German East Africa.—Types (very young specimens), in Hamburg Museum, examined.

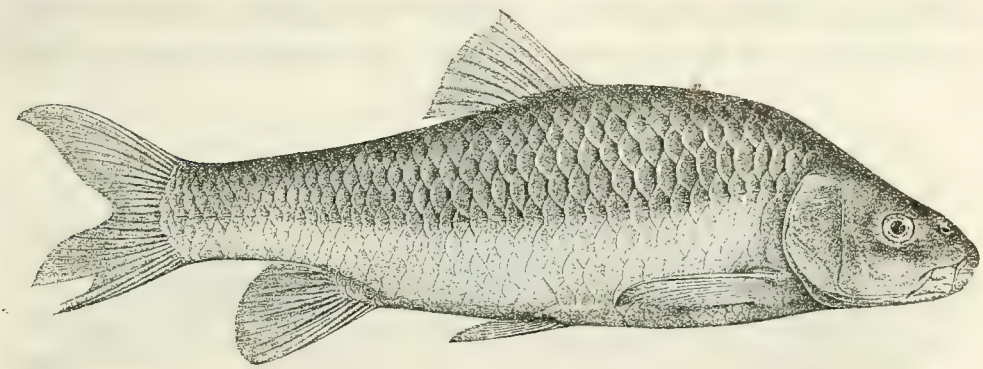
61. BARBUS PLATYRHINUS.

Boulenger, Ann. & Mag. N. H. (7) vi. 1900, p. 479, Poiss. Bass. Congo, p. 223 (1901), and Tr. Zool. Soc. xvi. 1901, p. 144, pl. xii. fig. 2.

Depth of body $3\frac{1}{4}$ times in total length, length of head 4 times. Snout broad and rounded, about $\frac{1}{3}$ length of head; eye $5\frac{1}{2}$ times in length of head, interorbital width $2\frac{1}{4}$ times; mouth inferior, its width $3\frac{2}{3}$ times in length of head; lips moderately developed, lower interrupted on the

chin; two barbels on each side, subequal, as long as eye. Dorsal III 8, equally distant from eye and from root of caudal, border rather convex; last simple ray feebly enlarged, ossified, smooth, $\frac{1}{2}$ length of head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle about $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated,

Fig. 54.



Barbus platyrhinus.
Type (Tr. Z. S. 1901). $\frac{1}{3}$.

40 $\frac{5\frac{1}{2}\ 6\frac{1}{2}}{5\frac{1}{2}}$, $3\frac{1}{2}$ between lateral line and ventral, 16 round caudal peduncle. Olive-brown above, golden yellow beneath.

Total length 390 millim.

Lake Tanganyika.

1. Type. Usambura. Prof. J. E. S. Moore (C.).

62. BARBUS NYASSÆ.

Keilhack, Sitzb. Ges. naturf. Fr. Berl. 1908, p. 165.

Depth of body $3\frac{1}{3}$ to 4 times in total length, length of head $4\frac{1}{5}$ times. Snout pointed, prominent, $2\frac{4}{5}$ times in length of head; eye 4 times in length of head, interorbital width $2\frac{1}{6}$ times; mouth inferior, transverse, its width $2\frac{4}{5}$ times in length of head; lower jaw with a sharp edge; lips feebly developed, lower restricted to the sides; two barbels on each side, posterior a little longer than anterior and not quite $\frac{1}{2}$ diameter of eye. Dorsal IV 9, border concave; last simple ray strong, bony, not serrated, nearly as long as head. Anal III 5, not quite reaching caudal. Pectoral $\frac{3}{4}$ length of head. Ventral below middle of dorsal. Caudal peduncle $1\frac{3}{4}$ times as long as deep. Scales 36–40 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, 4 between lateral line and ventral.

Total length 118 millim.

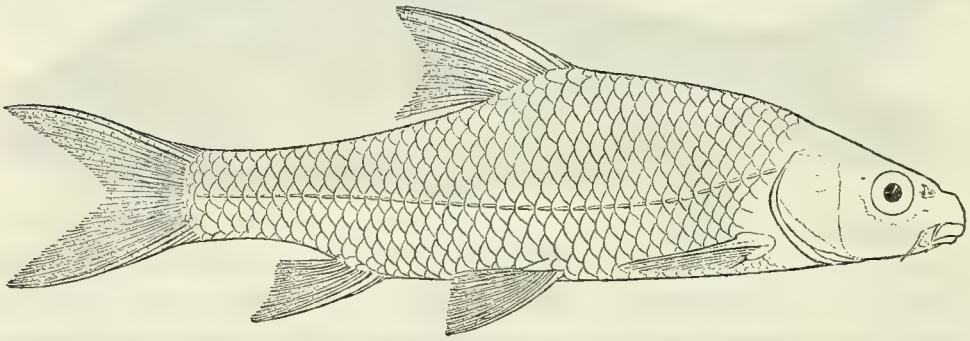
Lake Nyassa.—Type in Berlin Museum.

63. BARBUS ELEPHANTIS.

Bouleng. Proc. Zool. Soc. 1907, p. 310, fig.

Depth of body equal to length of head, 4 times in total length. Snout rounded, 3 times in length of head; eye 4 times in length of head, interorbital width $2\frac{2}{3}$ times; mouth inferior, feebly curved, its width $3\frac{1}{2}$ times in length of head, lower jaw with a sharp edge; lower lip restricted to the sides; two barbels on each side, anterior $\frac{2}{3}$ diameter of eye, posterior as long as eye. Dorsal IV 8, equally distant from eye and from root of caudal, border concave; last simple ray strong, bony,

Fig. 55.



Barbus elephantis.
Type (P. Z. S. 1907). $\frac{5}{6}$.

not serrated, its rigid part $\frac{2}{3}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 37 $\frac{6\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 14 round caudal peduncle. Muddy grey above, white beneath; dorsal yellowish grey; caudal and paired fins bright pink.

Total length 155 millim.

Groot Olifant River, Transvaal.

1. Type. Groot Olifant R. Major G. E. Bruce (P.).

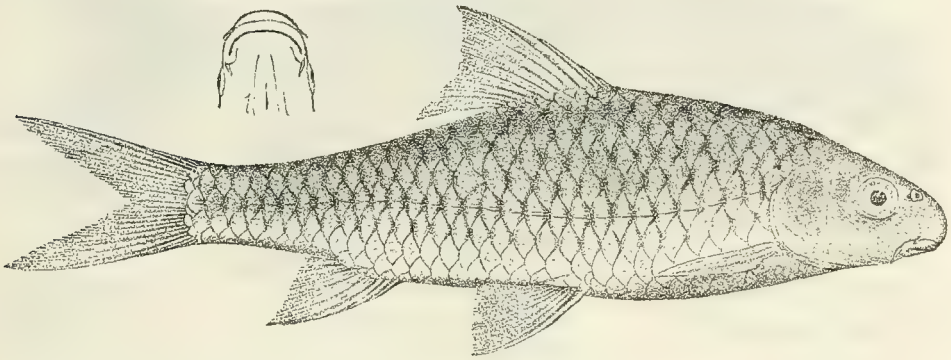
64. BARBUS SECTOR.

Bouleng. Proc. Zool. Soc. 1907, p. 309, pl. xviii. fig. 2.

Depth of body $3\frac{1}{2}$ times in total length, length of head $4\frac{1}{3}$ times. Snout rounded, 3 times in length of head; eye 4 times in length of head, interorbital width $2\frac{3}{4}$ times; mouth inferior, feebly curved, its width 3 times in length of head, lower jaw with a sharp edge; lower lip restricted to the sides; two barbels on each side, anterior about $\frac{1}{3}$,

posterior about $\frac{1}{2}$ diameter of eye. Dorsal IV 9. equally distant from eye and from root of caudal, border feebly concave; last simple ray strong, bony, not serrated, its rigid part $\frac{3}{5}$ length of head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle $1\frac{3}{4}$ times as long as deep. Scales longitudinally striated, 29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Muddy grey above, white beneath; dorsal yellowish grey; caudal and paired fins bright pink.

Fig. 56.



Barbus sector.
Type (P. Z. S. 1907). $\frac{4}{5}$.

Total length 440 millim.

Groot Olifant River, Transvaal.

1. Type. Groot Olifant R. Major G. E. Bruce (P.).

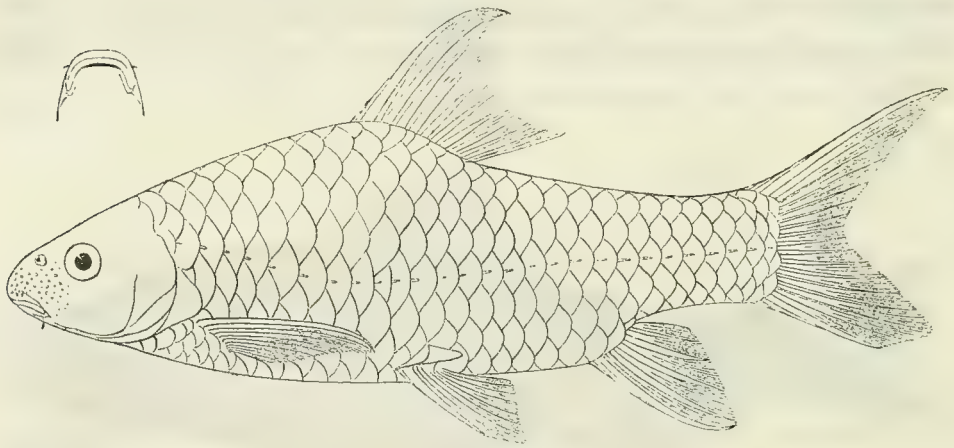
65. BARBUS MICRONEMA.

Boulenger. Ann. & Mag. N. H. (7) xiii. 1904, p. 237.

Depth of body 3 times in total length, length of head 4 to $4\frac{1}{2}$ times. Snout rounded-subtruncate, $2\frac{2}{3}$ to 3 times in length of head, with small pearl-like granules on the sides; eye $4\frac{2}{5}$ to $5\frac{1}{2}$ times in length of head, interorbital width 2 to $2\frac{1}{3}$ times; mouth inferior, forming a broken arch, a feebly curved transverse line in front, its width 3 times in length of head; edge of lower jaw forming a blunt keel; lips feebly developed, lower restricted to the sides; barbels one or two on each side, the anterior, if present, quite minute, the posterior $\frac{1}{2}$ diameter of eye. Dorsal III 10, a little nearer occiput than root of caudal, border concave; last simple ray strong, bony, not serrated, its rigid part $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal III 5, reaching caudal. Pectoral as long as or a little

shorter than head, not approaching ventral; base of latter below middle of dorsal. Caudal peduncle slightly longer than deep. Scales longitudinally striated, 27 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Olive-brown above, golden below, the scales darker at the base; fins dark.

Fig. 57.



Barbus micronema.
Type. $\frac{1}{2}$.

Total length 340 millim.
Kribi River, South Cameroon.

1–2. Types. Kribi R. G. L. Bates, Esq. (C.).

66. BARBUS BRUCII.

Bouleng. Proc. Zool. Soc. 1907, p. 309, pl. xviii. fig. 1.

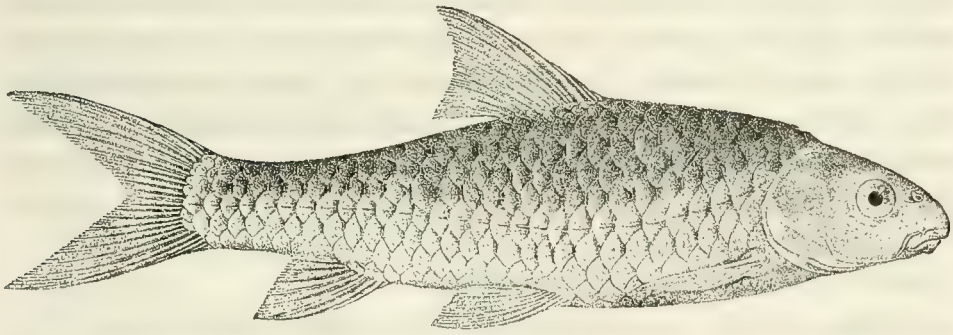
Depth of body $3\frac{1}{2}$ to $3\frac{2}{3}$ times in total length, length of head $3\frac{2}{3}$ to 4 times. Snout rounded-subacuminate, $2\frac{3}{4}$ times in length of head, strongly projecting beyond mouth; eye 5 times in length of head, interorbital width nearly 3 times; mouth inferior, its width 4 to $4\frac{1}{2}$ times in length of head; lips strongly developed, upper sometimes produced into a large lobe, lower continuous and forming a rounded or subtriangular mental lobe; two barbels on each side, anterior about $\frac{1}{2}$ diameter of eye, posterior $\frac{2}{3}$ to $\frac{3}{4}$. Dorsal IV 9, equally distant from centre of eye and from root of caudal, border strongly concave; last simple ray strong, bony, not serrated, $\frac{2}{3}$ length of head. Anal III 5, not reaching root of caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as

deep. Scales longitudinally striated, 29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Muddy grey above, white beneath; dorsal yellowish grey; caudal and paired fins bright pink.

Total length 220 millim.

Groot Olifant River, Transvaal.

Fig. 58.



Barbus brucii.
Type (P. Z. S. 1907). $\frac{5}{6}$.

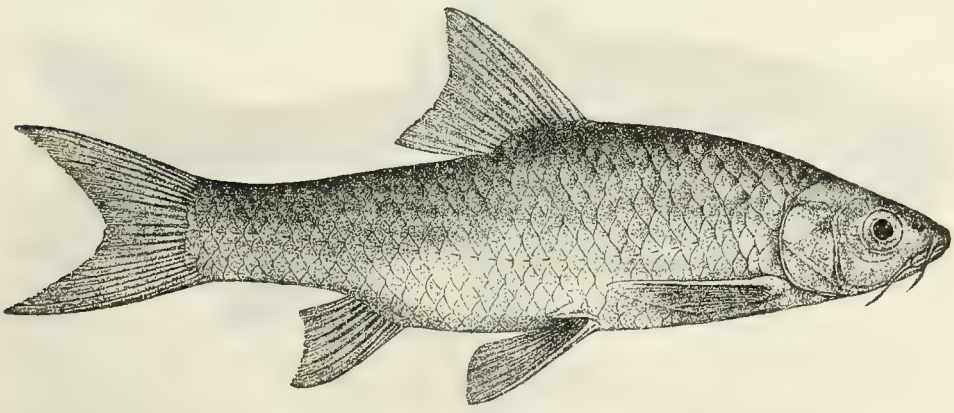
1. Hgr., type.	Groot Olifant R.	Major G. E. Bruce (P.)
2. Ad.	Middelburg.	S. Pershouse, Esq. (P.).

67. BARBUS HARTERTI.

Günth. Nov. Zool. viii. 1901, p. 367, pl. xviii. fig. A.

Depth of body $3\frac{1}{4}$ to $3\frac{3}{4}$ times in total length, length of head 4 to $4\frac{1}{2}$ times. Snout rounded, $3\frac{1}{3}$ to 4 times in length of head; eye $3\frac{1}{3}$

Fig. 59.



Barbus harterti.
Type, after Günther (*l. c.*). $\frac{5}{8}$.

(young) to 5 times in length of head, interorbital width $2\frac{1}{4}$ to $2\frac{1}{2}$ times;

mouth inferior, its width $3\frac{1}{2}$ to 4 times in length of head; lips moderately developed, interrupted on the chin; two barbels on each side, nearly equal in length, $1\frac{1}{2}$ to 2 diameters of eye (not longer than eye in young). Dorsal IV 9, equally distant from eye or occiput and from root of caudal, upper border slightly concave; last simple ray very strong, bony, not serrated, at least $\frac{2}{3}$ length of head, usually as long as head. Anal III 6 (rarely 7), not reaching caudal. Pectoral as long as head or slightly shorter, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 32–35 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 14–16 round caudal peduncle. Brown or olive above, silvery white beneath.

Total length 285 millim.

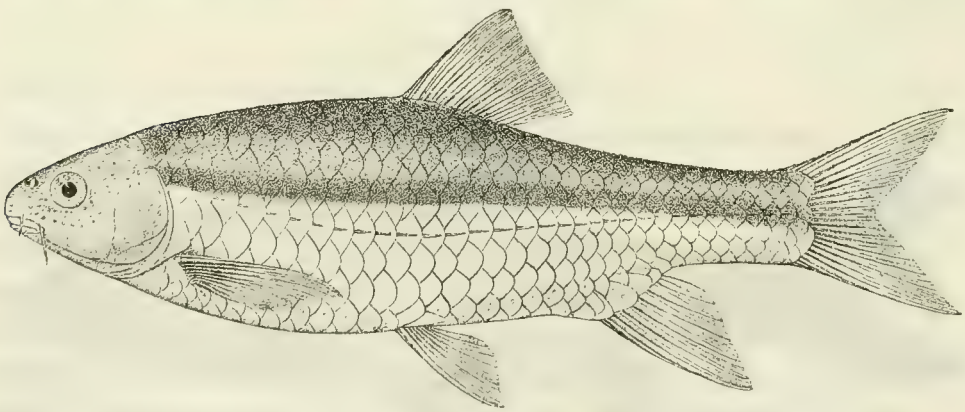
Morocco.

1–2. Type.	Oum Erbiah.	Dr. E. Hartert (P.).
3–10, 11–17. Ad., hgr., & yg.	,,	Mr. F. W. Riggenbach (C.).
18. Skel.	,,	,,
19–21. Ad.	Mazagan.	,,
22. Hgr.	R. Talmist.	,,

68. BARBUS PAYTONII, sp. n.

Depth of body $3\frac{1}{5}$ to $3\frac{1}{2}$ times in total length, length of head 4 to $4\frac{1}{2}$

Fig. 60.



Barbus paytonii.
Type.

times. Snout rounded, $3\frac{1}{3}$ to $3\frac{1}{2}$ times in length of head; eye $3\frac{1}{2}$ to 4 times in length of head, interorbital width $2\frac{1}{3}$ to $2\frac{1}{2}$ times; mouth inferior, transverse, crescentic, with obtuse lower edge; lips feebly

developed, widely interrupted on the chin; two barbels on each side, anterior $\frac{1}{2}$ to $\frac{2}{3}$, posterior $\frac{2}{3}$ to $\frac{3}{4}$ diameter of eye; males with small pearl-like tubercles on the head. Dorsal III–IV 8–9, equally distant from occiput and from root of caudal, upper border straight or slightly concave; last simple ray moderately strong, bony, not serrated, $\frac{2}{3}$ length of head. Anal II 6, not quite reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 32–35 $\frac{5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{4}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 16 round caudal peduncle. Brownish above, silvery white beneath; a dark streak above the lateral line, from head to root of caudal.

Total length 125 millim.

Morocco.

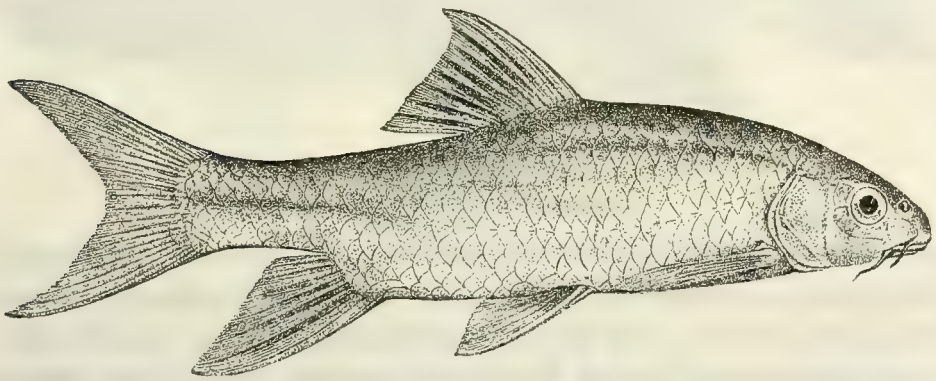
1–7. Types. Oum Erbiah, near Mazagan. Mr. F. W. Riggenbach (C.).

69. BARBUS ROTHSCHILDI.

Günth. Nov. Zool. viii. 1901, p. 368, pl. xviii. fig. B, and ix. 1902, p. 448.

Depth of body $3\frac{1}{2}$ to $4\frac{1}{4}$ times in total length, length of head 4 to 5 times. Snout rounded, its length equal to that of eye, which is $3\frac{1}{3}$ to $3\frac{2}{3}$ times in length of head; interorbital width $2\frac{1}{3}$ to $2\frac{1}{2}$ times in length of head; mouth inferior, transverse, crescentic, with obtuse lower edge;

Fig. 61.



Barbus rothschildi.
Type, after Günther (*l. c.*). $\frac{5}{7}$.

lips feebly developed, widely interrupted on the chin; two barbels on each side, anterior $\frac{1}{2}$ to $\frac{2}{3}$, posterior $\frac{2}{3}$ to 1 diameter of eye. Dorsal III–IV 8–9, equally distant from eye or occiput and from root of caudal,

upper border slightly concave; last simple ray very strong, bony, not serrated, as long as head or a little shorter. Anal II 6, reaching caudal. Pectoral as long as head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales longitudinally striated, 31–35 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 16 round caudal peduncle. Silvery, back brownish.

Total length 150 millim.

Morocco.

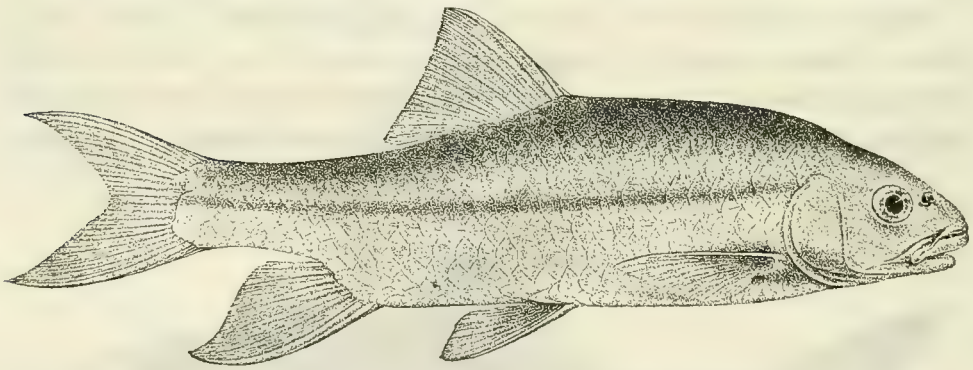
1–2. Type.	Oum Erbiah.	Dr. E. Hartert (P.).
3–7. Ad. & hgr.	„	Mr. F. W. Riggenbach (C.).
8–9. Ad. & hgr.	Mazagan.	„

70. BARBUS RIGGENBACHI.

Günth. Nov. Zool. ix. 1902, p. 447, pl. xxiii.

Depth of body $3\frac{2}{3}$ to 4 times in total length, length of head $4\frac{1}{4}$ to $4\frac{1}{2}$ times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye 4 to $4\frac{1}{2}$ times in length of head, interorbital width $2\frac{1}{3}$ to $2\frac{2}{3}$ times; mouth

Fig. 62.



Barbus riggenbachi.
Type, after Günther (*l. c.*). $\frac{5}{7}$.

inferior, its width 3 times in length of head; lips moderate, interrupted on the chin; two barbels on each side, anterior $\frac{2}{3}$ to $\frac{3}{4}$, posterior 1 to $1\frac{1}{4}$ diameters of eye; inside of mouth with a dermal pad on each side of the upper jaw. Dorsal III–IV 8–9, equally distant from occiput and from root of caudal, border straight or slightly concave; last simple ray strong, bony, not serrated, $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Anal II 6, reaching caudal. Pectoral as long as head or a little shorter, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated,

31–33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 2–2½ between lateral line and ventral, 16 round caudal peduncle. Brownish above, whitish beneath, with a very indistinct dark band above the lateral line.

Total length 155 millim.

Morocco.

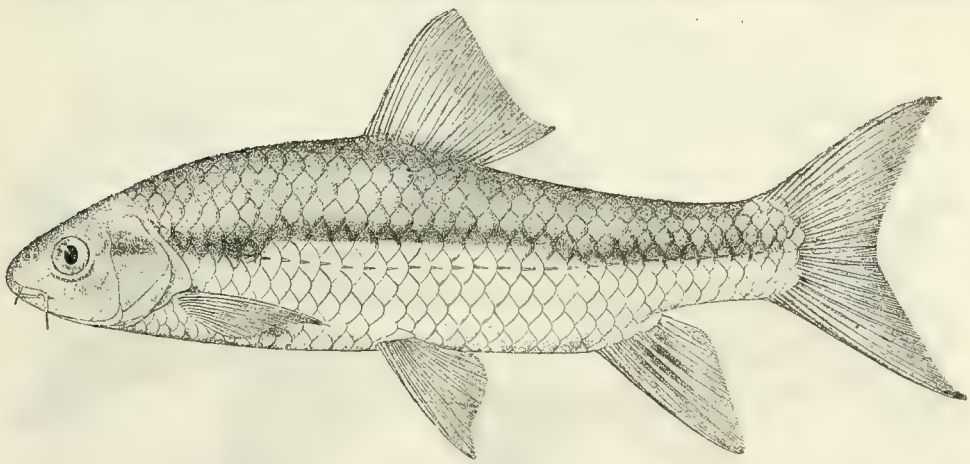
1–2. Types.	Oum Erbiah.	Mr. F. W. Riggenbach (C.).
3. Type.	R. Talmist.	,,

71. BARBUS FRITSCHII.

Günth. Ann. & Mag. N. H. (4) xiii. 1874, p. 231, pl. xiv. fig. A.

Depth of body 3½ to 4 times in total length, length of head 3½ to 4½ times. Snout rounded, its length 3 (young) to 3½ times in length of head; diameter of eye 3½ to 4 times in length of head, interorbital width 2⅓ to 2½ times; mouth inferior, transverse, crescentic, with obtuse

Fig. 63.



Barbus fritschii.
Type. $\frac{5}{7}$.

lower edge, its width 3 to 4 times in length of head; lips feebly developed, widely interrupted on the chin; two barbels on each side, anterior about ½, posterior ¾ to 1 diameter of eye. Dorsal III–IV 8–9, equally distant from eye or occiput and from root of caudal, border straight or slightly concave; last simple ray bony but rather feeble, not serrated, the bony part ½ to ⅔ length of head. Anal III 6, reaching caudal. Pectoral as long as head or a little shorter, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle 1⅓ to 1½ times as long as deep. Scales longitudinally striated,

30–33 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 16 round caudal peduncle. Silvery, back darker; a more or less distinct greyish or blackish lateral band.

Total length 180 millim.

Morocco.

1–5. Hgr. & yg., types.	Wed Ksib.	Prof. J. Rein & Dr. C. v. Fritsch (P.).
6. Ad.	Near Mogador (in interior).	C. A. Payton, Esq. (P.).
7–12. Ad. & hgr.	Shishawa R.	Mr. F. W. Riggenbach (C.).
13. Skel.	„	„

72. BARBUS WALDOI.

Capoëta waldoi, Bouleng. Ann. & Mag. N. H. (7) ix. 1902, p. 123.
Barbus waldoi, Bouleng. op. cit. xvi. 1905, p. 44.

Depth of body $3\frac{2}{3}$ to 4 times in total length, length of head $4\frac{3}{4}$ to 5 times. Snout rounded, as long as or slightly longer than eye, which

Fig. 64.

Barbus waldoi.
Shishawa R. $\frac{5}{6}$.

is 4 times in length of head; interorbital width $2\frac{1}{3}$ to $2\frac{1}{2}$ times in length of head; mouth inferior, its width $2\frac{2}{3}$ to 3 times in length of head, lower jaw transverse, feebly curved, sharp-edged, covered with a horny sheath; lips feebly developed, widely interrupted on the chin; two pairs of barbels, anterior $\frac{1}{2}$ diameter of eye, second a little shorter than eye. Dorsal III 9, equally distant from occiput or eye and from root of caudal, border straight; last simple ray ossified but feeble, smooth; longest ray $\frac{3}{4}$ or $\frac{4}{5}$ the length of the head. Anal II 6, reaching caudal.

Pectoral a little shorter than head, not reaching ventral, the base of which is below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{3}{4}$ times as long as deep. Scales longitudinally striated, 32–35 $\frac{6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 16 round caudal peduncle. Steel-grey above, silvery beneath; a more or less distinct darker lateral band.

Total length 160 millim.

Morocco.

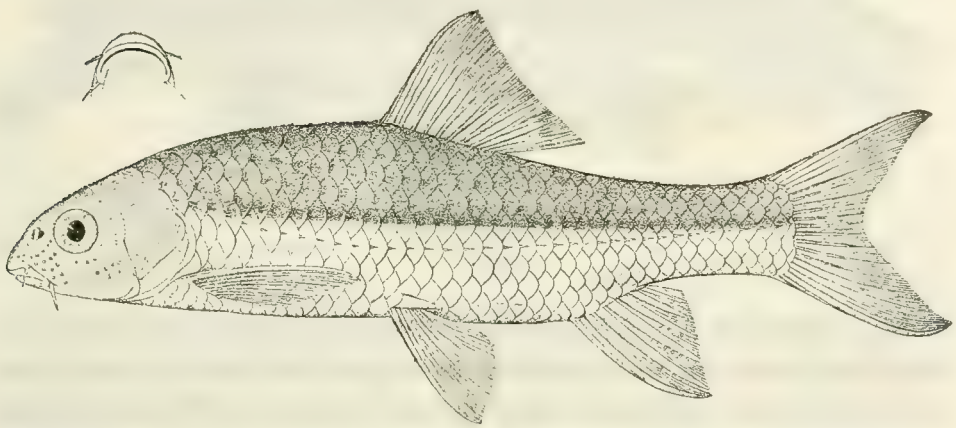
1–2. Types.	Trigadir-el-hor.	E. G. B. Meade-Waldo, Esq. (P.).
3. Ad.	Shishawa R.	Mr. F. W. Riggenbach (C.).

73. BARBUS ATLANTICUS.

Capoëta atlantica, Bouleng. Ann. & Mag. N. H. (7) ix. 1902, p. 123.
Barbus atlanticus, Bouleng. op. cit. xvi. 1905, p. 44.

Depth of body slightly greater than length of head, 4 times in total length. Snout rounded, a little longer than eye, which is 4 times in length of head; interorbital width $2\frac{1}{2}$ times in length of head; mouth

Fig. 65.



Barbus atlanticus.
Type.

inferior, its width 3 times in length of head, lower jaw feebly curved, sharp-edged, covered with a horny sheath; lips feebly developed, widely interrupted on the chin; two barbels on each side, anterior $\frac{2}{5}$ diameter of the eye, posterior $\frac{2}{3}$ or $\frac{3}{4}$. Small pearl-like excrescences on the sides and top of the head. Dorsal III 9; third ray feeble, smooth, stiff part $\frac{1}{2}$ to $\frac{2}{3}$ length of head. Anal II 6, not reaching caudal. Pectoral a little shorter than head, not reaching ventral, which is inserted under anterior rays of dorsal. Caudal peduncle nearly twice

as long as deep. Scales longitudinally striated, 35–36 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 16 round caudal peduncle. Steel-grey above, silvery beneath; an indistinct darker lateral band.

Total length 120 millim.

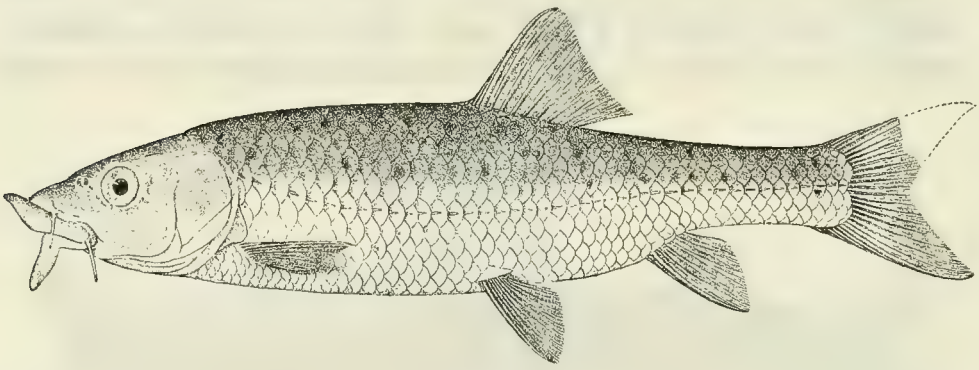
Morocco.

1–2. Types. Trigadir-el-hor. E. G. B. Meade-Waldo, Esq. (P.).

74. BARBUS GILCHRISTI, sp. n.

Depth of body $4\frac{1}{2}$ times in total length, length of head $3\frac{3}{4}$ times. Snout rounded, projecting beyond mouth, $\frac{1}{3}$ length of head; eye $5\frac{1}{2}$ times in length of head, interorbital width $3\frac{1}{3}$ times; width of mouth 3 times in length of head; lips very thick, lower extending across chin,

Fig. 66.



Barbus gilchristi.
Type. $\frac{5}{7}$.

both produced into triangular lobes; 2 barbels on each side, posterior a little longer than anterior and slightly longer than eye. Dorsal III 8, a little nearer root of caudal than occiput, border slightly concave; last simple ray feebly enlarged, segmented down to its lower third, smooth, about $\frac{3}{5}$ length of head. Anal II 5, not reaching caudal. Pectoral $\frac{3}{5}$ length of head, not reaching ventral; latter below anterior rays of dorsal. Caudal peduncle nearly twice as long as deep. Scales longitudinally striated, 42 $\frac{6\frac{1}{2}}{7\frac{1}{2}}$, 4 between lateral line and ventral, 14 round caudal peduncle. Olive-brown above, with small black spots, whitish beneath.

Total length 165 millim.

Cape Colony.

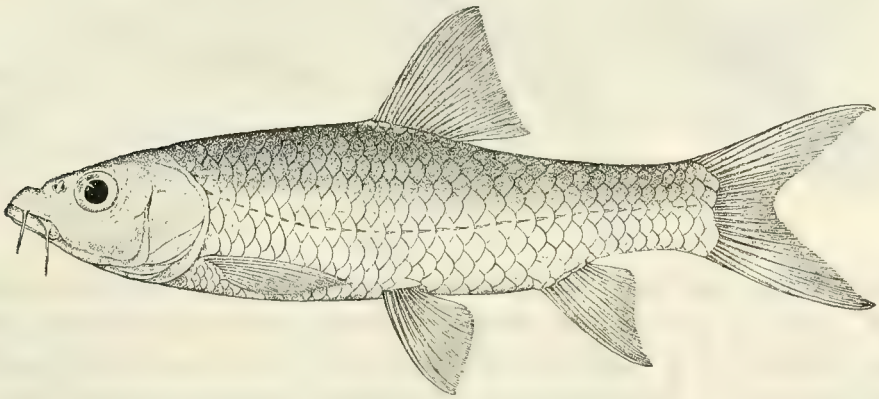
1. Type. Kraai R., Barkly East. Dr. J. D. F. Gilchrist (P.).

75. BARBUS BOWKERI.

Barbus gurneyi, part., Günth. Cat. Fish. vii. p. 102 (1868).
Barbus bowkeri, Bouleng. Ann. & Mag. N. H. (7) ix. 1902, p. 288.

Depth of body equal to length of head, $3\frac{3}{4}$ to $4\frac{1}{4}$ times in total length. Snout rounded, feebly projecting beyond mouth, about $\frac{1}{3}$ length of head; eye $4\frac{1}{2}$ to $5\frac{1}{2}$ times in length of head, interorbital width $2\frac{3}{4}$ to 3 times; width of mouth $3\frac{1}{2}$ to 4 times in length of head; lips thick, lower extending across chin, where it may form a small rounded lobe; 2 barbels on each side, posterior a little longer than anterior and as long as or slightly longer than eye. Dorsal III 8–9, equally distant from occiput

Fig. 67.



Barbus bowkeri.
Type.

and from root of caudal, border slightly concave; last simple ray not enlarged, flexible, smooth, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal II–III 5, reaching or nearly reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{5}{6}$ length of head, not reaching ventral; latter below anterior rays of dorsal. Scales longitudinally striated, 33–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 14–16 round caudal peduncle. Olive-brown above, silvery beneath.

Total length 255 millim.

Natal.

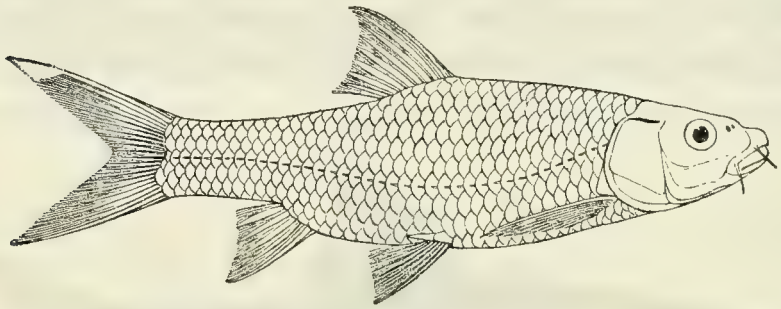
1–5. Ad., types of *B. gurneyi* and *B. bowkeri*.	Durban.	Mr. T. Ayres (C.).
6. Skel.	,,	,,
7. Hgr., type.	,,	,,
8–9. Hgr., types.	,,	Col. Bowker (P.).

76. BARBUS AUREUS.

Labeobarbus aureus, Cope, Tr. Amer. Philos. Soc. (2) xiii. 1869, p. 406.
Barbus aureus, Bouleng. Ann. & Mag. N. H. (7) xix. 1907, p. 391, fig.

Depth of body equal to length of head, $3\frac{2}{3}$ times in total length. Snout rounded, feebly projecting beyond mouth, $\frac{1}{3}$ length of head; eye 4 to $4\frac{1}{2}$ times in length of head, interorbital width 3 times; mouth evenly curved, its width $3\frac{1}{2}$ times in length of head; lower jaw with a

Fig. 68.



Barbus aureus.
Type (Ann. & Mag. N. H. 1907). $\frac{1}{3}$.

sharp edge; lips thin, not extending across chin; 2 barbels on each side, equal or posterior the longer; as long as or a little shorter than eye. Dorsal III 8, equally distant from occiput and from root of caudal, border concave; last simple ray not enlarged, flexible, smooth, $\frac{4}{5}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 34–37 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 16 round caudal peduncle. No markings.

Total length 195 millim.

Umvoti, Natal.—Types in Academy of Nat. Sc., Philadelphia.

1. Hgr.	Natal.	Dr. Gibb (C.); Army Medical College (P.).
2–3. Hgr.	„	Army Medical College (P.).

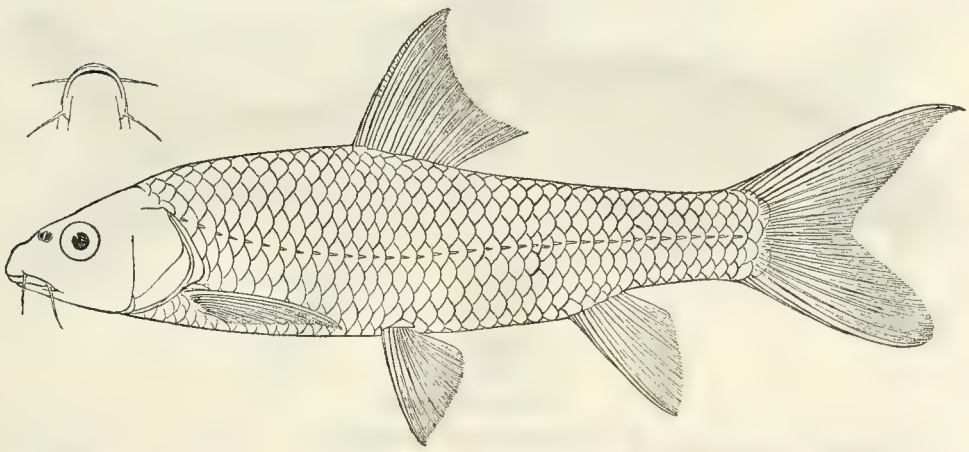
77. BARBUS JOHNSTONII.

Bouleng. Ann. & Mag. N. H. (7) xx. 1907, p. 488.

Depth of body equal to length of head, 4 times in total length. Snout rounded, $\frac{2}{7}$ or $\frac{1}{3}$ length of head; eye $4\frac{1}{3}$ to 5 times in length of head, interorbital width $2\frac{1}{2}$ times; mouth inferior, its width 3 to

$3\frac{1}{2}$ times in length of head; lower jaw with a blunt edge, covered by a thin horny sheath; lips feebly developed, lower confined to the sides; barbels two on each side, posterior slightly longer than anterior and as long as eye. Dorsal IV 9, equally distant from centre of eye and from caudal; last simple ray flexible, not enlarged, as long as head; border of fin concave. Anal III 5, not reaching caudal. Pectoral slightly shorter than head, not reaching ventral; latter below middle

Fig. 69.



Barbus johnstonii.
Type. $\frac{2}{3}$.

of dorsal. Caudal peduncle $1\frac{3}{4}$ times as long as deep. Scales longitudinally striated, 34–38 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12–14 round caudal peduncle. Silvery, darker on the back.

Total length 230 millim.

Lake Nyassa.

1. Type.	Between Kondowe and Karonga.	Sir H. H. Johnston (P.).
2. Ad.	L. Nyassa.	Capt. E. L. Rhoades (P.).

78. BARBUS ZAMBESENSIS.

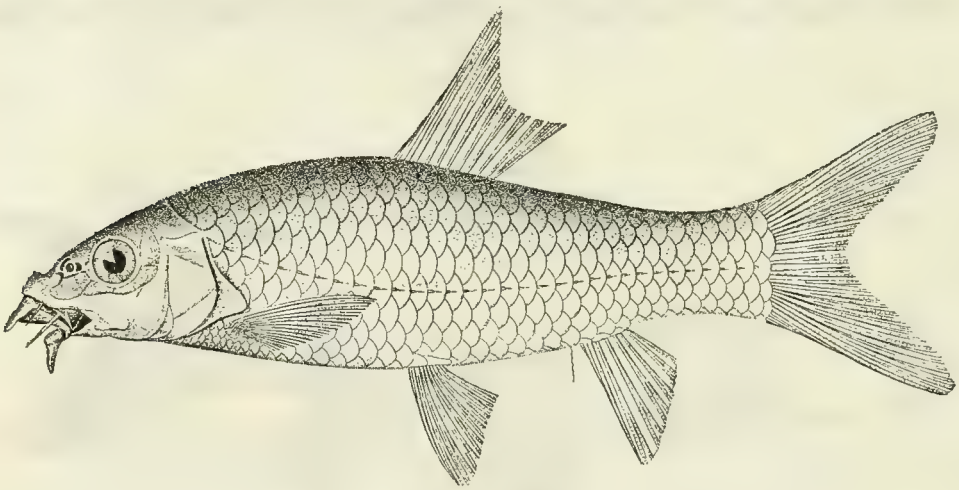
Labeobarbus zambezensis, Peters, Mon. Berl. Ac. 1852, p. 683, and Reise Mossamb. iv. p. 49, pl. x. fig. 2 (1868).

Barbus zambezensis, Günth. Cat. Fish. vii. p. 105 (1868).

Depth of body equal to length of head, 4 times in total length. Snout about $\frac{1}{3}$ length of head; eye 4 times in length of head, equal to interorbital width; mouth inferior; both lips much developed, each more or less produced into a pointed median lobe; two barbels on each

side, posterior twice as long as anterior and as long as eye. Dorsal IV 9, equally distant from eye and from root of caudal, border concave; last simple ray not enlarged, smooth, nearly as long as head. Anal III 5, not reaching caudal. Pectoral shorter than head, not reaching ventral; latter below middle of dorsal. Caudal peduncle about $1\frac{1}{3}$ times

Fig. 70.



Barbus zambesensis.
After Peters (Reise Mossamb.).

as long as deep. Scales longitudinally striated, 32–34 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Upper parts and fins green, lower parts silvery tinged with yellow.

Total length 130 millim.

Zambesi.—Types in Berlin Museum.

79. BARBUS LOBOCHILUS, sp. n.

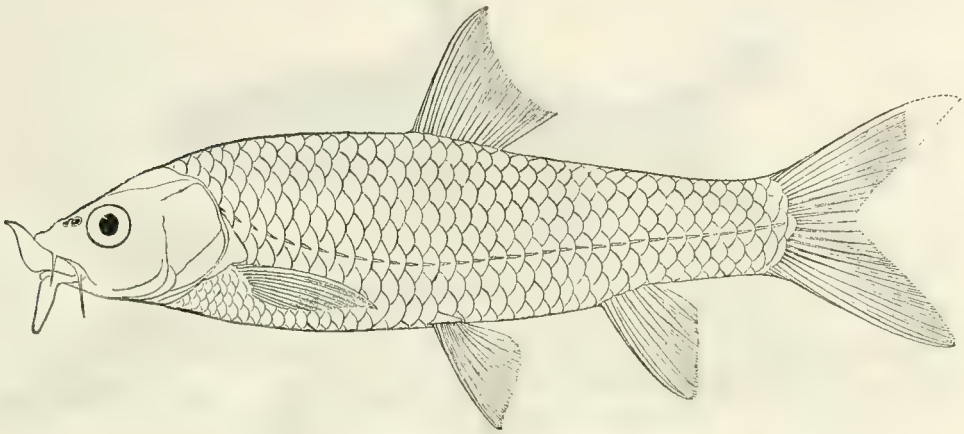
Depth of body equal to length of head, 4 times in total length. Snout pointed, 3 times in length of head; eye $4\frac{1}{2}$ times in total length, interorbital width 3 times; mouth inferior, its width 4 times in length of head; both lips much developed, each produced into a long pointed median lobe; two barbels on each side, anterior $\frac{3}{4}$ length of eye, posterior as long as eye. Dorsal IV 8, equally distant from occiput and from root of caudal, border concave; last simple ray not enlarged, smooth, $\frac{2}{3}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head, not reaching ventral; base of latter a little behind origin of dorsal. Caudal peduncle $1\frac{1}{3}$ times as

long as deep. Scales longitudinally striated, 32–33 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 2 between lateral line and ventral, 14 round caudal peduncle. Dark olive above, yellowish beneath.

Total length 170 millim.

Natal.

Fig. 71.



Barbus lobochilus.

Type. $\frac{5}{7}$.

1. Type. Natal. Army Medical College (P.).

80. BARBUS CHILOTES.

Boulenger, Ann. & Mag. N. H. (8) ii. 1908, p. 494.

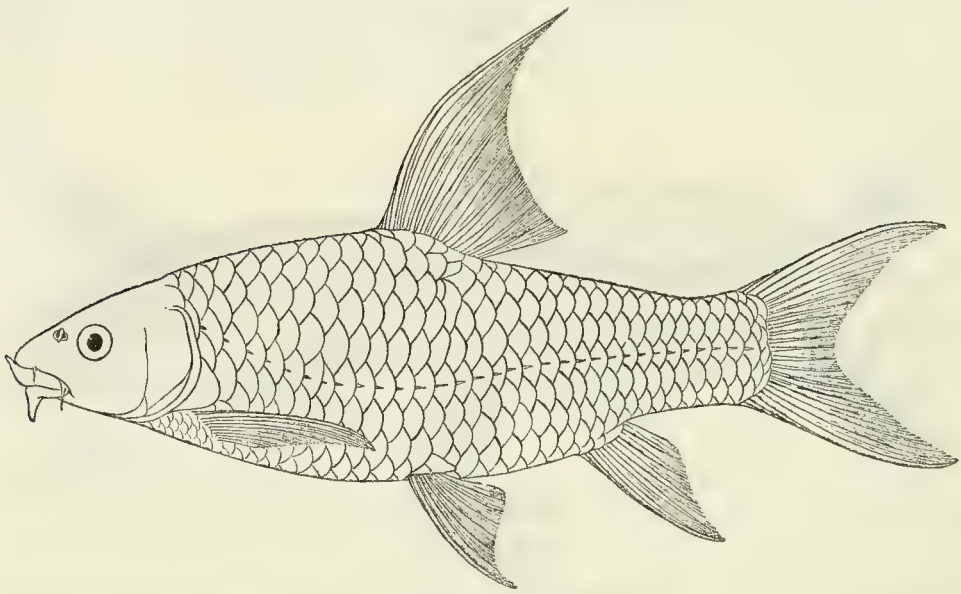
Depth of body $3\frac{1}{4}$ times in total length, length of head 4 or $4\frac{1}{4}$ times. Snout rounded, about $\frac{1}{3}$ length of head; eye $3\frac{1}{2}$ (young) to 5 times in length of head, interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times; mouth inferior, its width $3\frac{1}{2}$ to 4 times in length of head; both lips much developed, each more or less produced into an obtusely pointed median lobe; two barbels on each side, posterior nearly twice as long as anterior and a little shorter than eye. Dorsal III 9–10, equally distant from eye and from root of caudal, or a little nearer latter, border concave; last simple ray not enlarged, flexible, smooth, $1\frac{1}{2}$ times as long as head. Anal III 5, reaching or nearly reaching caudal. Pectoral as long as head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle $1\frac{1}{3}$ times as long as deep. Scales longitudinally striated, 30–32 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 12 round caudal

peduncle. Pinkish brown above, the scales edged with blackish, white beneath; fins dark grey.

Total length 235 millim.

Upper Zambesi.

Fig. 72.



Barbus chilotes.
Type. $\frac{1}{2}$.

1–2. Types.	Maramba R., 2 miles above Victoria Falls.	T. Codrington, Esq. (P.).

81. BARBUS CAUDOVITTATUS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 32, pl. ix. fig. 2 (1902).

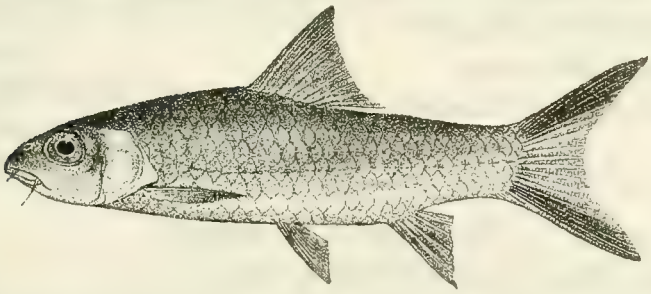
Depth of body equal to length of head, $3\frac{1}{2}$ times in total length. Snout rounded, as long as eye, which is $3\frac{1}{2}$ times in length of head and equals interorbital width; mouth small, inferior; lips moderate, lower continuous across chin; two barbels on each side, posterior twice as long as anterior and a little shorter than eye. Dorsal III 9, equally distant from eye and from caudal, border concave; last simple ray not enlarged, not serrated, $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle a little longer than deep. Scales longitudinally striated, 26–28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Olive above, golden beneath, scales darker at

the base; dorsal fin blackish in front; a black band along each lobe of caudal.

Total length 90 millim.

Ubanghi.—Type in Congo Museum, Tervueren.

Fig. 73.



Barbus caudovittatus.
Type (A. M. C.). $\frac{7}{8}$.

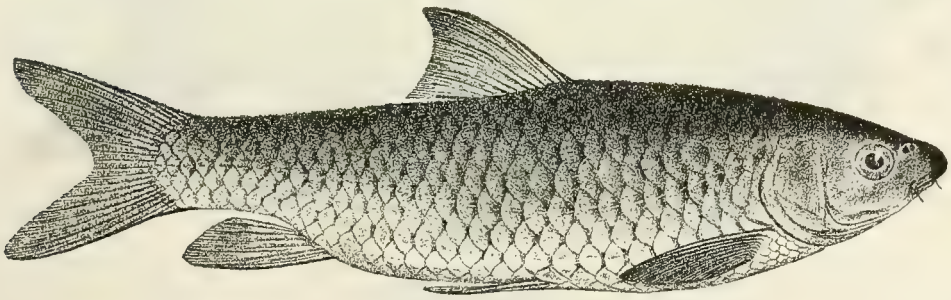
1. One of the types. Banzyville. Capt. Royaux (C.).

82. BARBUS RHODESIANUS.

Bouleng. Proc. Zool. Soc. 1902, ii. p. 14, pl. ii. fig. 2, and Mem. Manchest. Philos. Soc. li. 1907, no. 12, p. 2.

Depth of body $3\frac{1}{2}$ to $3\frac{2}{3}$ times in total length, length of head 4 to $4\frac{2}{3}$ times. Snout rounded, $\frac{1}{3}$ length of head; eye $3\frac{2}{3}$ to $4\frac{1}{2}$ times in length

Fig. 74.



Barbus rhodesianus.
Type (P. Z. S. 1902). $\frac{1}{2}$.

of head, interorbital width $2\frac{1}{2}$ times; mouth inferior, its width $3\frac{1}{2}$ to 4 times in length of head; lower jaw with angular edge; lips thin, lower restricted to the sides; two barbels on each side, subequal, about $\frac{1}{2}$ diameter of eye. Dorsal III 8–9, equally distant from eye and from

root of caudal, border notched; last simple ray not enlarged, flexible, smooth, $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Anal II 5, nearly reaching caudal. Pectoral a little shorter than head, not reaching ventral, the base of which is below middle of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 30–32 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Dark olive-brown above, silvery below; fins dark.

Total length 280 millim.

Mashonaland, N.E. Rhodesia (Zambesi System).

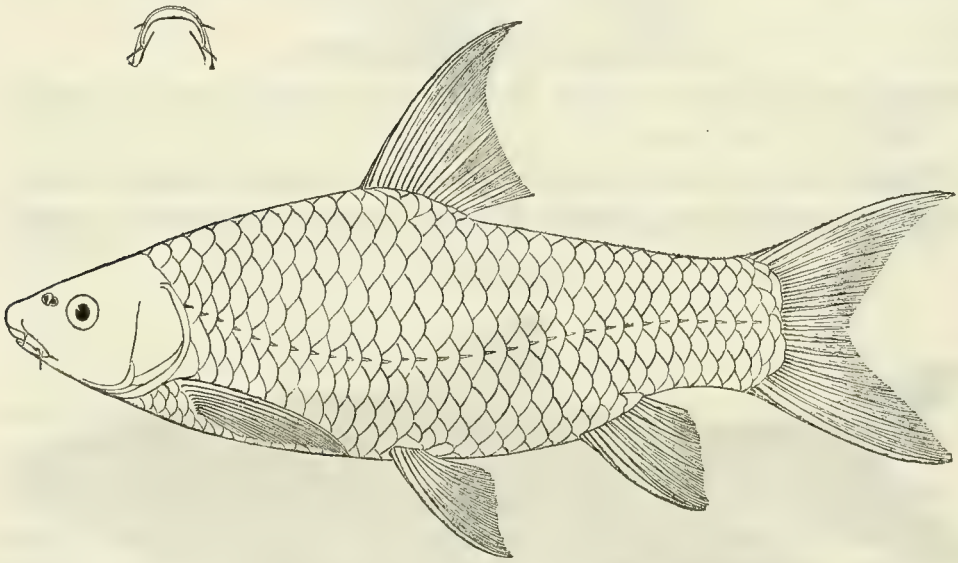
1–4. Types. Near Mazoë, Mashonaland. J. ffolliott Darling, Esq. (P.).

83. BARBUS VICTORIÆ.

Bouleng. Ann. & Mag. N. H. (8) ii. 1908, p. 492.

Depth of body 3 times in total length, length of head $4\frac{1}{2}$ times. Snout rounded, $\frac{1}{3}$ length of head; eye 5 times in length of head, interorbital

Fig. 75.



Barbus victoriæ.
Type. $\frac{1}{3}$.

width $2\frac{1}{3}$ times; mouth inferior, its width 3 times in length of head; lower jaw with a nearly straight sharp edge, covered with a thin horny sheath; lips rather thick, papillose, lower restricted to the sides; two barbels on each side, anterior $\frac{1}{3}$, posterior $\frac{1}{2}$ diameter of eye. Dorsal IV 8, equally distant from eye and from root of caudal, border concave;

last simple ray not enlarged, flexible, smooth, $1\frac{1}{3}$ times length of head. Anal III 5, nearly reaching caudal. Pectoral as long as head, not reaching ventral, the base of which is below middle of dorsal. Caudal peduncle as long as deep. Scales longitudinally striated, 30–31 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Pinkish brown above, each scale blackish at the base; pinkish white beneath; fins dark grey.

Total length 320 millim.

Upper Zambesi.

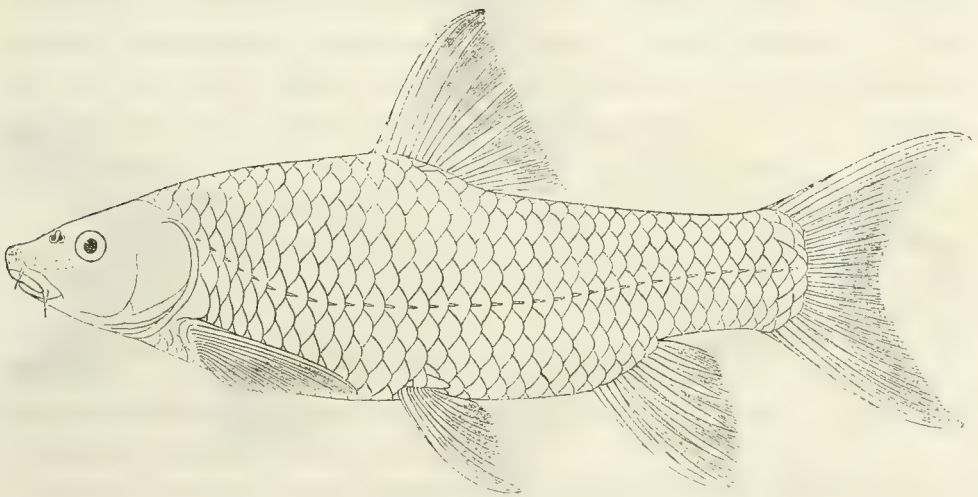
1. Type. Gorge below Victoria Falls. T. Codrington, Esq. (P.).

84. BARBUS FAIRBAIRNII.

Bouleng. Ann. & Mag. N. H. (8) ii. 1908, p. 493.

Depth of body 3 times in total length, length of head 4 times. Snout obtusely pointed, covered with horny tubercles on tip and sides, not quite 3 times in length of head; eye 6 times in length of head, inter-

Fig. 76.



Barbus fairbairnii.
Type. $\frac{1}{3}$.

orbital width $2\frac{1}{2}$ times; mouth inferior, its width $3\frac{1}{3}$ times in length of head; lips moderate, lower restricted to the sides; two barbels on each side, subequal, posterior $\frac{3}{4}$ diameter of eye. Dorsal III 8, equally distant from eye and from caudal, border straight; last simple ray not enlarged, smooth, as long as head. Anal III 5, reaching caudal. Pectoral as

long as head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle $1\frac{1}{4}$ times as long as deep. Scales longitudinally striated, 34 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Purplish brown above, pinkish white beneath, the scales blackish at the base; fins purplish brown.

Total length 420 millim.

Upper Zambesi.

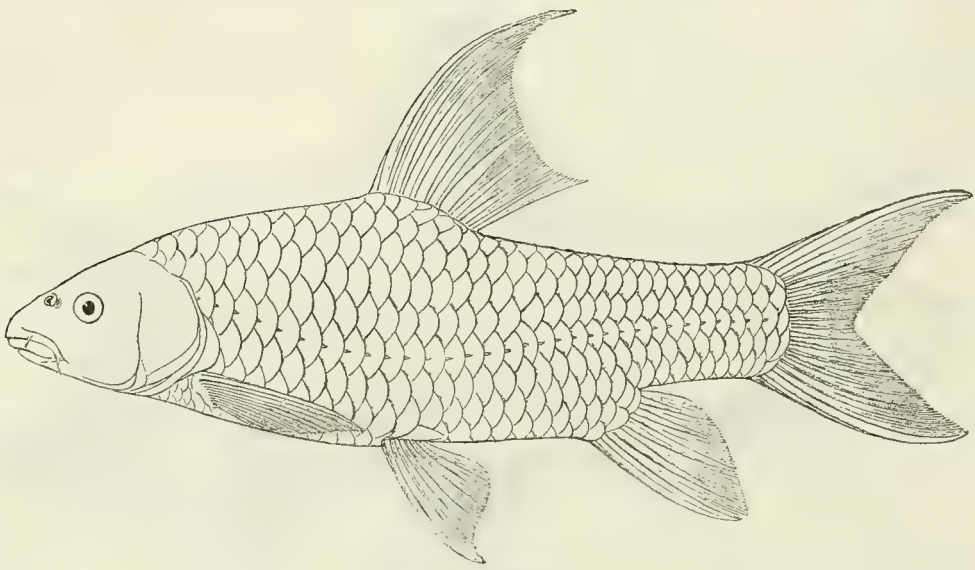
1. Type. Gorge below Victoria Falls. T. Codrington, Esq. (P.).

85. BARBUS CODRINGTONII.

Boulenger. Ann. & Mag. N. H. (8) ii. 1908, p. 492.

Depth of body 3 times in total length, length of head 4 times. Snout rounded, $\frac{1}{3}$ length of head; eye 6 times in length of head, interorbital width $2\frac{1}{3}$ times; mouth inferior, its width 3 times in length of head; lips moderately developed, lower broadly interrupted on the chin; two

Fig. 77.



Barbus codringtonii.
Type. $\frac{1}{3}$.

barbels on each side, anterior $\frac{1}{2}$, posterior $\frac{2}{3}$ diameter of eye. Dorsal III 9, equally distant from eye and from root of caudal, border concave; last simple ray not enlarged, flexible, smooth, $1\frac{1}{2}$ times as long as head. Anal III 5, reaching caudal. Pectoral as long as head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle slightly

longer than deep. Scales longitudinally striated, 32 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Brown above, the scales blackish at the base, pink on the sides, white beneath; dorsal and ventrals yellow.

Total length 390 millim.

Upper Zambesi.

1. Type. Near Victoria Falls. T. Codrington, Esq. (P.).

86. BARBUS WURTZI.

Pellegr. Bull. Mus. Paris, 1908, p. 206, and Bull. Soc. Philom. (9) x. 1908, p. 127, fig.

Depth of body a little over 3 times in total length, length of head 4 times. Snout rounded, about $\frac{1}{3}$ length of head; eye $3\frac{1}{3}$ times in length of head, interorbital width $2\frac{1}{3}$ times; mouth small, inferior; lips feebly developed, interrupted on the chin; two barbels on each side, posterior the longer and a little more than $\frac{1}{2}$ diameter of eye. Dorsal III 10, equally distant from eye and from root of caudal, border concave; last simple ray not enlarged, flexible, smooth, slightly longer than head. Anal III 5, not reaching caudal. Pectoral as long as head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales longitudinally striated, 29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Dark olive-brown above, white beneath; fins brownish yellow.

Total length 148 millim.

Great Falls of Koukouré River, French Guinea.—Type in Paris Museum.

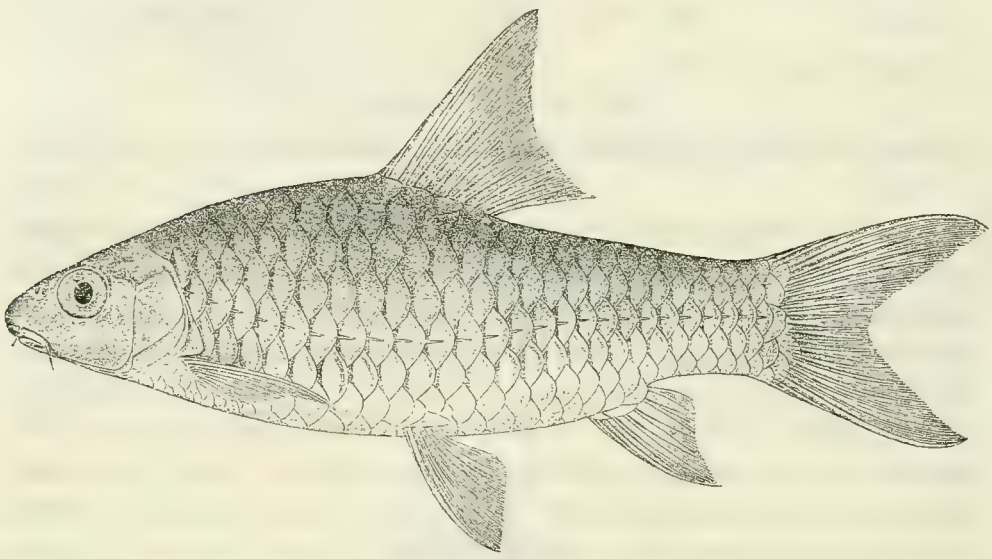
87. BARBUS MACROLEPIS.

Pfeff. Jahrb. Hamb. Wiss. Anst. vi. 1889, p. 17, x. 2, 1893, p. 34, pl. i. fig. 1, and Thierw. O.-Afr., Fische, p. 63 (1896).

Depth of body 3 times in total length, length of head 4 times. Snout rounded, $3\frac{1}{2}$ times in length of head; eye $3\frac{1}{2}$ to $3\frac{3}{4}$ times in length of head, interorbital width $2\frac{1}{2}$ times; mouth inferior, semicircular, its width $3\frac{1}{2}$ times in length of head; lips moderately developed, lower restricted to the sides; lower jaw with obtusely angular edge; two barbels on each side, subequal, barely half diameter of eye. Dorsal IV 10–11, equally distant from eye and from root of caudal, border deeply concave; last simple ray feebly enlarged, articulated except at the base, not serrated,

a little longer than head. Anal III 5, reaching caudal. Pectoral as long as or a little shorter than head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle as long as deep. Scales longitudinally striated, 25–27 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral,

Fig. 78.



Barbus macrolepis.
Type.

12 round caudal peduncle. Brownish above, silvery white beneath, scales edged with darker.

Total length 110 millim.

Rukagura and Wami Rivers, Usagara, German East Africa.—Type in Hamburg Museum.

1. One of the types. Mbusini. Dr. Stuhlmann (C.); Hamburg Museum (E.).

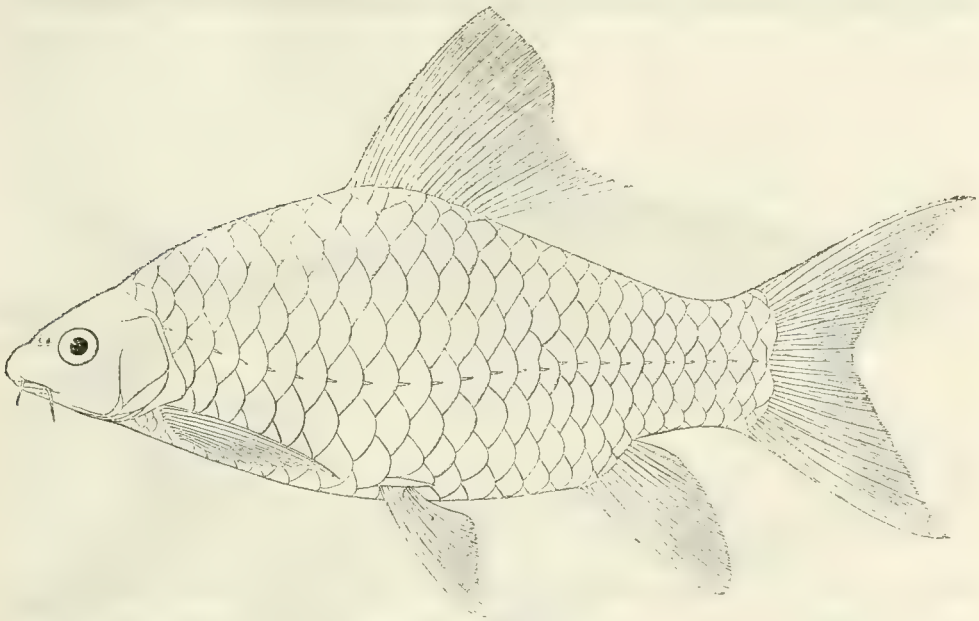
88. BARBUS LAGOENSIS.

Barynotus lagensis, Günth. Cat. Fish. vii. p. 61 (1868).
Barbus lagoensis, Bouleng. Ann. & Mag. N. H. (7) xvi. 1905, p. 45.

Depth of body $2\frac{2}{5}$ times in total length, length of head $4\frac{2}{3}$ times. Snout rounded-subtruncate, $3\frac{1}{4}$ times in length of head; eye not quite 4 times in length of head, interorbital width $2\frac{1}{2}$ times; mouth inferior, semicircular, its width $3\frac{1}{2}$ times in length of head; lips feebly developed, lower restricted to the sides; lower jaw with sharpish edge; two

barbels on each side, anterior $\frac{3}{5}$ diameter of eye, posterior nearly as long as eye. Dorsal III 10, equally distant from eye and from caudal, anterior rays much longer than head, border concave in its posterior half; last simple ray not enlarged. Anal III 5, reaching beyond root

Fig. 79.



Barbus lagoensis.
Type. $\frac{1}{2}$.

of caudal. Pectoral a little longer than head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle as long as deep. Scales with posteriorly convergent striæ, 24 $\frac{4\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Uniform bronzy brown, fins blackish.

Total length 255 millim.

Lagos.

1. Type. Lagos. H. T. Ussher, Esq. (C.).

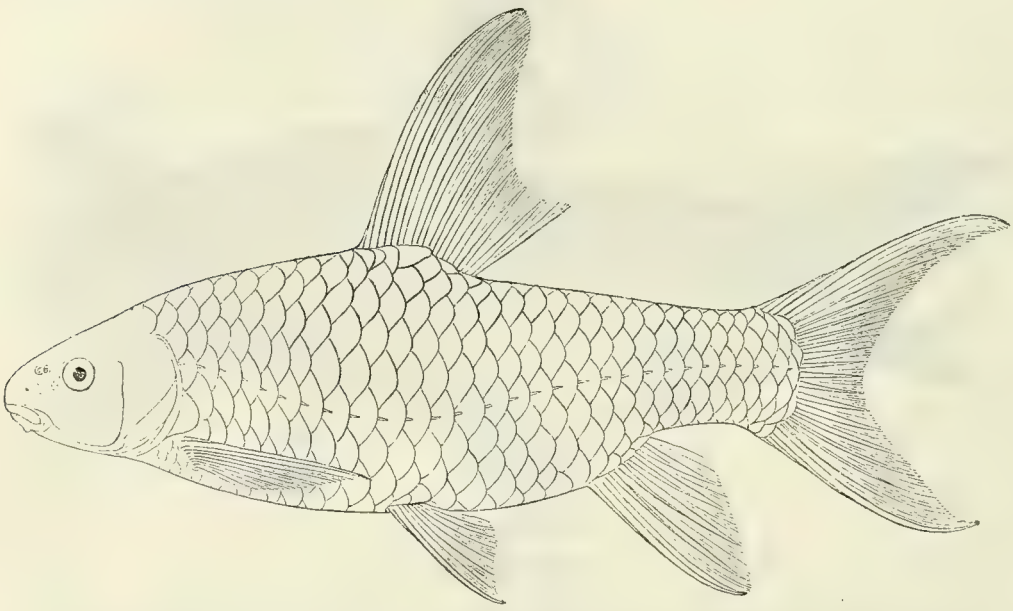
89. BARBUS ALTIDORSALIS.

Bouleng. Ann. & Mag. N. H. (8) ii. 1908, p. 493.

Depth of body 3 times in total length, length of head $4\frac{1}{2}$ times. Snout rounded, $3\frac{1}{2}$ times in length of head, with small nuptial tubercles on the sides; eye 5 times in length of head, interorbital width $2\frac{1}{2}$ times; mouth inferior, its width 3 times in length of head; lips thick, lower

continuous across chin; two barbels on each side, equal, $\frac{1}{3}$ diameter of eye. Dorsal III 9, equally distant from eye and from caudal; border deeply notched behind third branched ray; last simple ray not enlarged, smooth, anterior branched rays also much elongate, $1\frac{2}{3}$ times length of head. Anal III 5, reaching beyond root of caudal. Pectoral a little longer than head, not reaching ventral; base of latter below middle of

Fig. 80.



Barbus altidorsalis.
Type. $\frac{1}{3}$.

dorsal. Caudal peduncle $1\frac{1}{4}$ times as long as deep. Scales longitudinally striated, 28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Brownish above, the scales darker at the base, pink on the sides, white beneath; fins yellow, blackish towards the edge.

Total length 360 millim.

Upper Zambesi.

1. Type. Kafue R., N.W. Rhodesia. T. Codrington, Esq. (P.).

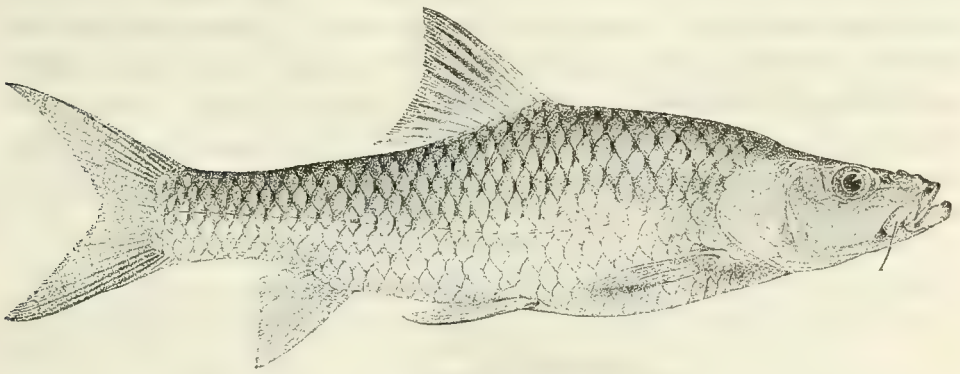
90. BARBUS PROGENYS.

Boulenger. Proc. Zool. Soc. 1903, i. p. 24, pl. iii. fig. 1.

Depth of body $3\frac{2}{3}$ to 4 times in total length, length of head $3\frac{1}{2}$ times. Snout rounded, depressed, 3 to $3\frac{1}{2}$ times in length of head; eye 4 to 5 times in length of head, equal to interorbital width; mouth large, its

width $3\frac{1}{2}$ to 4 times in length of head, lower jaw projecting beyond the upper; lips well-developed, lower interrupted on the chin; barbels two on each side, anterior $\frac{2}{3}$ to $\frac{3}{4}$ diameter of eye, posterior as long as eye or slightly shorter. Dorsal III 10, equally distant from eye and from caudal, border concave; last simple ray feeble, not stronger than those following, $\frac{2}{3}$ length of head. Anal II 5, not reaching caudal. Pectoral

Fig. 81.



Barbus progenys.
Type (P. Z. S. 1903). $\frac{2}{3}$.

$\frac{2}{5}$ to $\frac{2}{3}$ length of head, not reaching ventral; base of latter slightly posterior to origin of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales longitudinally striated, 32–35 $\frac{5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Silvery, brownish on the back, dorsal and lateral scales brown at the base; dorsal blackish distally or with an ill-defined dark band across the middle; other fins whitish, anal sometimes edged with blackish.

Total length 180 millim.

Kribi River, South Cameroon.

1. Type.	Kribi River.	G. L. Bates, Esq. (C.).
2–5. Ad.	,,	,,
6. Skel.	,,	,,

91. BARBUS TRIMACULATUS.

Peters, Mon. Berl. Ac. 1852, p. 683, and Reise Mossamb. iv. p. 55, pl. xi. fig. 4 (1868); Günth. Cat. Fish. vii. pp. 106 & 483 (1868), and Proc. Zool. Soc. 1893, p. 619; Steind. Sitzb. Ak. Wien, ciii. i. 1894, p. 452; M. Weber, Zool. Jahrb., Syst. x. 1897, p. 151.

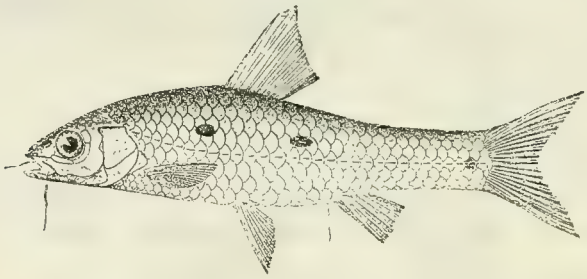
Barbus breijeri, M. Weber, t. c. p. 154.

Barbus katangæ, Bouleng. Ann. Mus. Congo, Zool. i. p. 132, pl. xlix. fig. 1 (1900), and Poiss. Bass. Congo, p. 224 (1901).

Barbus decipiens, Bouleng. Ann. & Mag. N. H. (7) xix. 1907, p. 492.

Depth of body 3 to 4 times in total length, length of head $3\frac{2}{3}$ to $4\frac{1}{4}$ times. Snout rounded, as long as or a little longer than eye in adult; eye 3 to $4\frac{1}{2}$ times in length of head, interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times; mouth subinferior, with lips feebly developed and interrupted on chin; two barbels on each side, anterior about as long as eye, posterior 1 to $1\frac{1}{2}$ diameters of eye. Dorsal III 8 (very rarely 7), nearer occiput than caudal, border concave; last simple ray strong, bony, not serrated, nearly straight, or feebly curved, $\frac{2}{3}$ to once length of head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter below or partly in front of anterior rays of dorsal.

Fig. 82.



Barbus trimaculatus.
Type, after Peters (Reise Mossamb.).

Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales radiately striated, 30–35 (rarely 36) $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, 3–4 between lateral line and ventral, 14–16 round caudal peduncle. Brown above, silvery on the sides and below; three more or less distinct round blackish spots often present on each side, the first and second just above the lateral line, one in front and one behind the vertical of the base of the dorsal, the third at the base of the caudal fin and traversed by the lateral line; these spots may be absent or reduced to the one at the base of the caudal fin; fins whitish, without spots.

Total length 135 millim.

Zambesi System to the Transvaal and Zululand; Southern Angola.—Type in Berlin Museum.

1–2. Ad.	R. Ruo, Brit. Cent. Africa.	Sir H. H. Johnston (P.).
3. Hgr.	Between Kondowe and Karonga, L. Nyassa.	,,

4–9. Yg.	Near Salisbury, Mashonaland.	G. A. K. Marshall, Esq. (P.).
10–22. Ad. & hgr.	Mazoë R., Mashonaland.	J. ff. Darling, Esq. (P.).
23–28. Ad. & hgr.	Beira, Portug. E. Africa.	Mr. C. Grant (C.); C. D. Rudd, Esq. (P.).
29–30. Ad. & hgr.	Groot Olifant R., Transvaal.	Major G. E. Bruce (P.).
31–35. Ad. & hgr.	Klein Olifant R., ,,	,,
36–37. Hgr.	Near Komati Poort, ,,	,,
38–39. Ad. & hgr.	Potchefstroom, Transvaal.	Mr. Stenning (C.); S. African Mus. (P.).
40–59. Ad. & hgr.	E. of Pietersburg, Transvaal.	Mr. C. Grant (C.); C. D. Rudd, Esq. (P.).
60. Skel.	,, ,,	,,
61–64. Ad.	Umfulosi, Zululand.	,,
65. Ad.	Elcheleselwane, Zululand.	Dr. E. Warren (P.).
66. Ad.	Mucopa R., Mossamedes.	Dr. W. J. Ansorge (C.).

All the above specimens represent *B. decipiens*, Blgr., which, I am informed by Dr. Pappenheim, must be regarded as identical with *B. trimaculatus*, Peters.

67–73. Ad. & hgr.	Dongwenna Swamps, Mossamedes.	Dr. W. J. Ansorge (C.).
74–75. Yg.	Que R., Mossamedes.	,,
76. Ad.	Kafue R., Upper Zambesi.	Rev. F. A. Rogers & E. C. Chubb, Esq. (P.).
77. Ad.	Idunda R., Portug. E. Africa.	C. F. M. Swynnerton Esq. (P.).

92. BARBUS NUMMIFER.

Barbus trimaculatus (non Peters), Hilgend. Sitzb. Ges. naturf. Fr. Berl. 1888, p. 78.

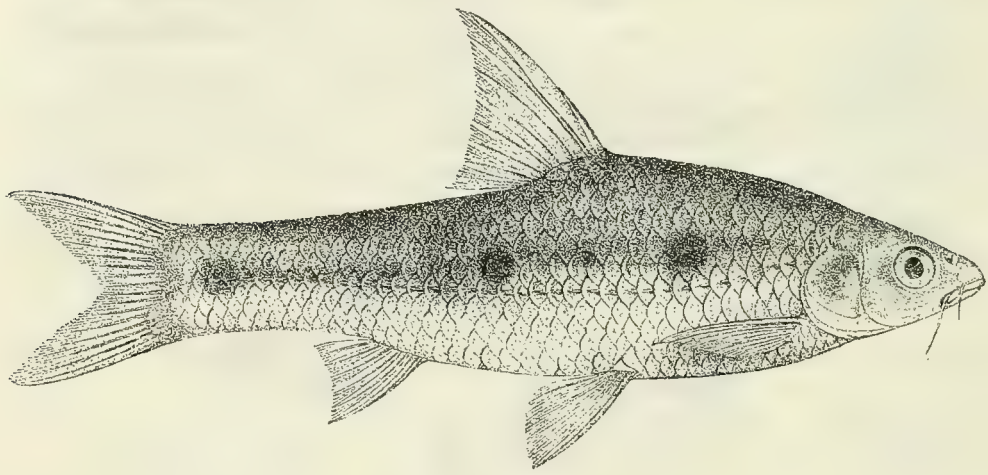
Barbus nummifer, Bouleng. Ann. & Mag. N. H. (7) xiii. 1904, p. 449, and Fish. Nile, p. 239, pl. xlvi. fig. 1 (1907).

Barbus jacksoni, var. *mitior*, Hilgend. Zool. Jahrb., Syst. xxii. 1905, p. 415.

Depth of body $3\frac{1}{2}$ to 4 times in total length, length of head 4 to $4\frac{1}{2}$ times. Snout rounded, as long as eye, which is $3\frac{2}{3}$ to 4 times in length of head; interorbital width $2\frac{1}{3}$ to $2\frac{2}{3}$ times in length of head; mouth subinferior, with lips feebly developed and interrupted on chin; two barbels on each side, anterior as long as eye or a little shorter, posterior $1\frac{1}{4}$ to $1\frac{1}{2}$ diameters of eye. Dorsal III 8, equally distant from eye or nostrils and from caudal, border concave; last simple ray very strong, bony, not serrated, nearly straight, $\frac{3}{4}$ to once as long as head. Anal III 5, not

reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below or partly in front of anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales radiately striated, 36–39 $\frac{5\frac{1}{2}-6\frac{1}{2}}{6\frac{1}{2}}$, 4 between lateral line and ventral, 16–18 round caudal peduncle. Olive-brown above, silvery beneath; a series of 3 to 6 round blackish spots on each side, the last or last two on the caudal peduncle and traversed by the lateral line, the others just above the lateral line.

Fig. 83.



Barbus nummifer.
Type (F. N.).

Total length 130 millim.

Lake Victoria, Bubu River (Lake Manyara).

1–7. Types.	L. Victoria.	Mr. W. G. Doggett (C.); Col. Delmé Radcliffe (P.).
8. Ad.	Entebbe.	Mr. E. Degen (C.).
9. Ad.	Bubu R. near Urango, Masai.	Prof. O. Neumann (C.).

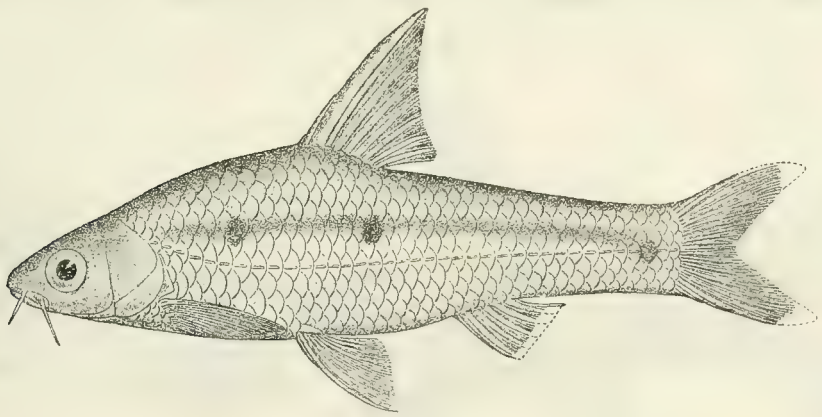
93. BARBUS JACKSONII.

Günth. Proc. Zool. Soc. 1889, p. 72; Pfeff. Thierw. O.-Afr., Fische, p. 67 (1896); Lönnb. Kilim.-Meru Exped., Fish. p. 4 (1907).

Depth of body $3\frac{1}{3}$ to $3\frac{1}{2}$ times in total length, length of head 4 to $4\frac{1}{5}$ times. Snout rounded; eye slightly longer, $3\frac{1}{2}$ times in length of head; interorbital width $2\frac{1}{2}$ times in length of head; mouth subinferior, with feebly developed lips, interrupted on chin; two barbels on each side, anterior a little shorter than eye, posterior a little longer than eye.

Dorsal III 7, equally distant from centre of eye and from caudal, border slightly concave; last simple ray of dorsal very strong, bony, not serrated, nearly straight, a little longer than head. Anal III 5, not reaching caudal. Pectoral $\frac{4}{5}$ length of head, not reaching ventral; base of latter partly in advance of dorsal. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales radiately striated, 36–37 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, $3\frac{1}{2}$–4 between lateral line and ventral, 16 round caudal peduncle. Silvery, brownish on the back; three round black spots on each side, two above lateral line, first

Fig. 84.



Barbus jacksonii.
Type.

above pectoral, second below last ray of dorsal, third at base of caudal; fins whitish.

Total length 100 millim.

Head-waters of Rufu River (Pangani), German East Africa.

1. Type. Rufu R., Arusha, S. of Kilimanjaro. F. J. Jackson, Esq. (P.).

94. BARBUS PAPPENHEIMI.

Barbus jacksoni (non Günth.), Hilgend. & Pappenh. Sitzb. Ges. naturf. Fr. Berl. 1903, p. 269.

Barbus pappenheimi, Bouleng. Ann. & Mag. N. H. (7) xvi. 1905, p. 44.

Differs from *B. jacksonii* in the more elongate body (depth $4\frac{1}{3}$ times in total length) and the longer snout (a little longer than eye). Posterior barbel $1\frac{1}{2}$ diameters of eye. Dorsal III 8, the spine a little shorter than head. Scales 37 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, $3\frac{1}{2}$ between lateral line and ventral.

Total length 80 millim.

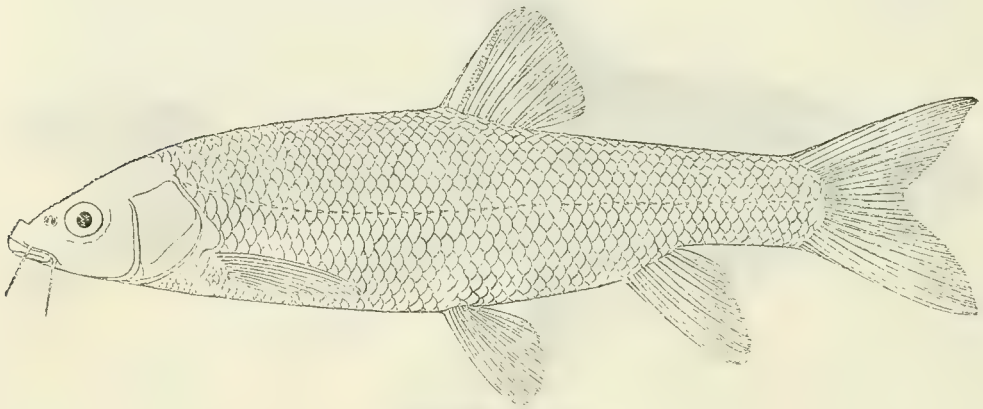
Lake Rukwa, German East Africa.—Type in Berlin Museum.

95. BARBUS BISCARENSIS, sp. n.

Barbus callensis, part., Günth. Cat. Fish. vii. p. 92 (1868) ; Playf. & Letourn. Ann. & Mag. N. H. (4) viii. 1871, p. 392.

Depth of body 4 to $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout rounded, 3 times in length of head; eye 4 (young) to 5 times in length of head, interorbital width $2\frac{3}{4}$ to 3 times; mouth terminal or subinferior, its width $3\frac{2}{3}$ to 4 times in length of head; lips moderate, interrupted on chin; barbels two on each side, subequal, $1\frac{1}{3}$ to $1\frac{1}{2}$ times diameter of eye (less in very young). Dorsal IV 8 (rarely 7), equally distant from occiput and from root of caudal, or a little nearer

Fig. 85.



Barbus biscarensis.
Type. $\frac{5}{6}$.

former, border straight or slightly convex; last simple ray very strong, bony, strongly serrated, serrated portion $\frac{1}{2}$ to $\frac{2}{3}$ length of head. Anal III 5, reaching or nearly reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching ventral, base of latter below anterior half of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales radiately striated, 48–51 $\frac{8\frac{1}{2}-10\frac{1}{2}}{7\frac{1}{2}-10\frac{1}{2}}$, $5\frac{1}{2}$–7 between lateral line and ventral, 20–22 round caudal peduncle. Brownish or greyish above, whitish beneath.

Total length 150 millim.

Algeria.

1. Ad.	Algeria.	
2–4. Hgr. & yg.	Biskra.	Paris Museum (E.).
5. Yg.	Ain Drohe, near Biskra.	Lord Walsingham (P.).
6. Yg.	Wed Biskra.	R. Gurney, Esq. (P.).
7. Yg.	Pool of Ifedil, Algerian Sahara.	Capt. Cottier (C.); Paris Museum (E.).

96. BARBUS CALLENSIS.

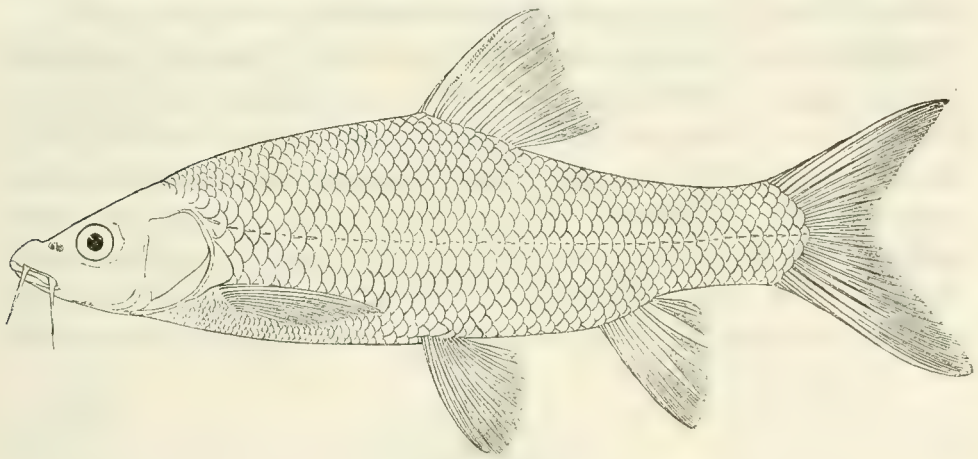
Cuv. & Val. Hist. Poiss. xvi. p. 147 (1842); Guichen. Explor. Sc. Alg., Poiss. p. 93 (1850).

? *Barbus leptopogon* (Agass.), Bonap. Icon. Faun. Ital., Pesc. pl. —. fig. 3 (1839).

Barbus callensis, part., Günth. Cat. Fish. vii. p. 92 (1868); Playf. & Letourn. Ann. & Mag. N. H. (4) viii. 1871, p. 392.

Depth of body $3\frac{1}{2}$ to 4 times in total length, length of head about the same. Snout rounded, 3 times in length of head; eye $3\frac{1}{2}$ (young) to 5 times in length of head, interorbital width $2\frac{3}{4}$ to 3 times; mouth subinferior, its width 4 to $4\frac{1}{2}$ times in length of head; lips well

Fig. 86.



Barbus callensis.
Algiers. $\frac{1}{2}$.

developed, interrupted on the chin; two barbels on each side, $1\frac{1}{2}$ to 2 times diameter of eye (less in the young). Dorsal IV 8, equally distant from occiput and from root of caudal, border straight or slightly concave; last simple ray very strong, bony, strongly serrated, serrated part $\frac{3}{5}$ to $\frac{3}{4}$ length of head. Anal III 5, reaching or nearly reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 40–47 $\frac{8\frac{1}{2}\text{-}9\frac{1}{2}}{8\frac{1}{2}\text{-}9\frac{1}{2}}$, 4–5 between lateral line and ventral, 18–20 round caudal peduncle. Olive above, silvery beneath; young sometimes dark-spotted.

Total length 220 millim.

Algeria and Morocco.—Types in Paris Museum *.

* I am indebted to Dr. Pellegrin for information concerning these specimens.

1. Ad.	La Calle, near Algiers.	M. Guichenot (C.); Paris Museum (E.).
2–7, 8, 9–13, 14–18. Ad., hgr., & yg.	Algiers.	Sir L. Playfair (P.).
19–28. Hgr. & yg.	Ain Drohe, near Biskra.	Lord Walsingham (P.).
29–30. Yg.	Oumach.	R. Gurney, Esq. (P.).
31. Yg.	Algeria.	
32. Ad.	Tangier.	M. G. Buchet (C.); Paris Museum (E.).

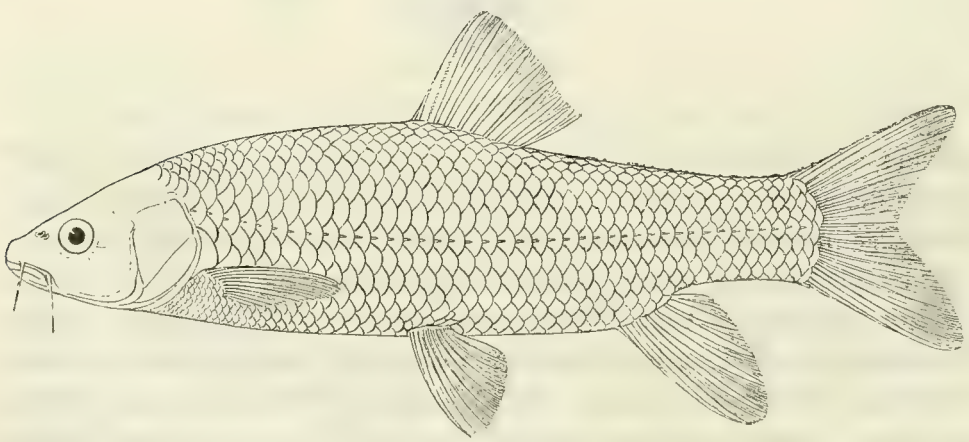
97. BARBUS SETIVIMENSIS.

Cuv. & Val. Hist. Poiss. xvi. p. 149 (1842); Guichen. Explor. Sc. Alg., Poiss. p. 93 (1850); Vincig. Ann. Mus. Genova, xx. 1884, p. 438.

Barbus setifensis, Playf. & Letourn. Ann. & Mag. N. H. (4) viii. 1871, p. 392.

Depth of body equal or nearly equal to length of head, $3\frac{1}{2}$ to 4 times in total length. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye 4 (young) to $7\frac{1}{2}$ times in length of head, interorbital width $2\frac{1}{2}$ to 3 times; mouth inferior, its width $3\frac{1}{2}$ to 4 times in length of head; lips moderate, lower interrupted on chin; two barbels on each side, subequal, $1\frac{1}{2}$ to 2 times as long as eye (scarcely longer than eye in young). Dorsal IV 7–8, equally distant from occiput or eye and from root of caudal, border straight or slightly concave; last simple ray moderately

Fig. 87.



Barbus setivimensis.
Algeria. $\frac{1}{3}$.

strong, bony, serrated, serrated part $\frac{2}{5}$ to $\frac{1}{2}$ length of head. Anal III 5, reaching, or nearly reaching, caudal. Pectoral $\frac{2}{3}$ to $\frac{4}{5}$ length of head, not reaching ventral; base of latter below anterior half of dorsal. Caudal peduncle $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as deep. Scales radiately

striated, 40-45 $\frac{7\frac{1}{2}-8\frac{1}{2}}{7\frac{1}{2}-9\frac{1}{2}}$, 4–5 between lateral line and ventral, 18 or 20 round caudal peduncle. Olive to copper-coloured above, whitish beneath; young sometimes dark-spotted.

Total length 300 millim.

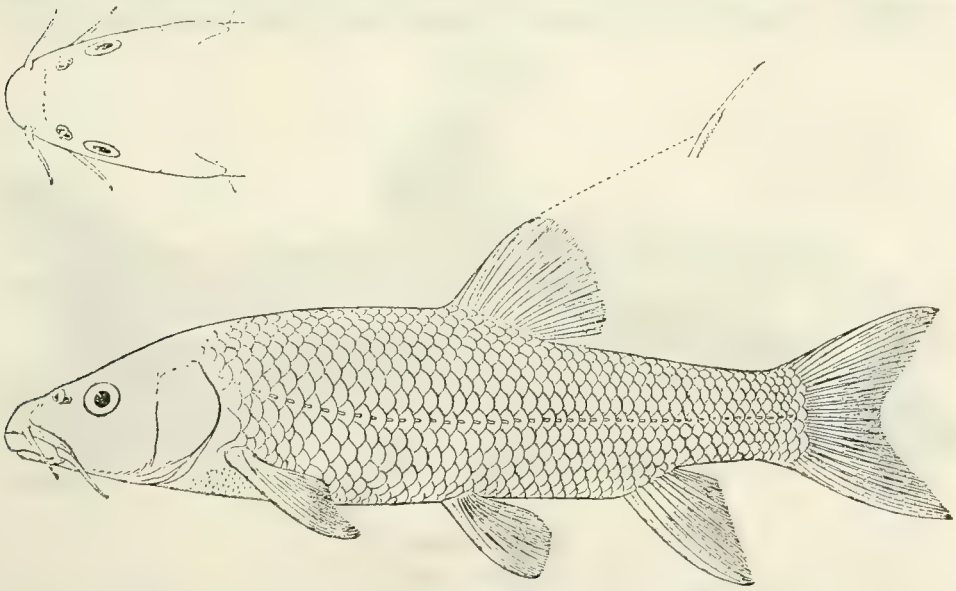
Morocco, Algeria, Tunisia *.—Type in Paris Museum.

1–3, 4–9. Hgr. & yg.	Algeria.	Sir L. Playfair (P.).
10. Yg.	Wed Ksib, near Mogador.	Prof. J. Rein (P.).
11–12. Ad.	„ „	Mr. F. W. Riggenbach (C.).
13–17. Ad., hgr., & yg.	Shishawa R., Atlas of Morocco.	„
18. Skel.	„ „	„
19–28. Ad., hgr., & yg.	Wed Fara, Prov. Rahamma, Morocco.	„
29. Hgr.	Trigadir-el-hor, Morocco.	E. G. B. Meade-Waldo, Esq. (P.).

98. BARBUS KSIBI.

Bouleng. Nov. Zool. xii. 1905, p. 505, fig.

Fig. 88.



Barbus ksibi, $\frac{1}{2}$, with upper view of head and detached third dorsal ray. (Nov. Zool. 1905.)

Depth of body $3\frac{2}{3}$ to $4\frac{1}{4}$ times in total length, length of head $3\frac{1}{2}$ to $3\frac{3}{4}$ times. Snout obtusely pointed, $1\frac{1}{2}$ to $2\frac{1}{4}$ times as long as eye; diameter of eye 4 to 6 times in length of head, interorbital width $2\frac{1}{3}$ to

* I have examined the Tunisian specimens preserved in the Genoa Museum.

$2\frac{1}{2}$ times; mouth inferior, its width $\frac{1}{4}$ to $\frac{2}{7}$ length of head; lips well developed, interrupted on the chin; barbels two on each side, equal in length, $1\frac{1}{2}$ to 2 times diameter of eye. Dorsal III 7–8, last simple ray moderately strong, serrated at the base, $\frac{1}{2}$ to $\frac{3}{5}$ length of head; border of the fin convex; its distance from the occiput equal to or slightly less than its distance from the caudal fin. Anal III 5, longest ray $\frac{2}{3}$ to $\frac{3}{4}$ length of head, reaching root of caudal or a little beyond. Pectoral about $\frac{2}{3}$ length of head, not reaching ventral; latter a little shorter, below anterior rays of dorsal. Caudal peduncle about $1\frac{1}{3}$ times as long as deep. Scales radiately striated, 41–46 $\frac{8\frac{1}{2}-9\frac{1}{2}}{7\frac{1}{2}-9\frac{1}{2}}$, 4 between lateral line and ventral, 18–20 round caudal peduncle. Brownish above, white beneath; fins white.

Total length 220 millim.

Morocco.

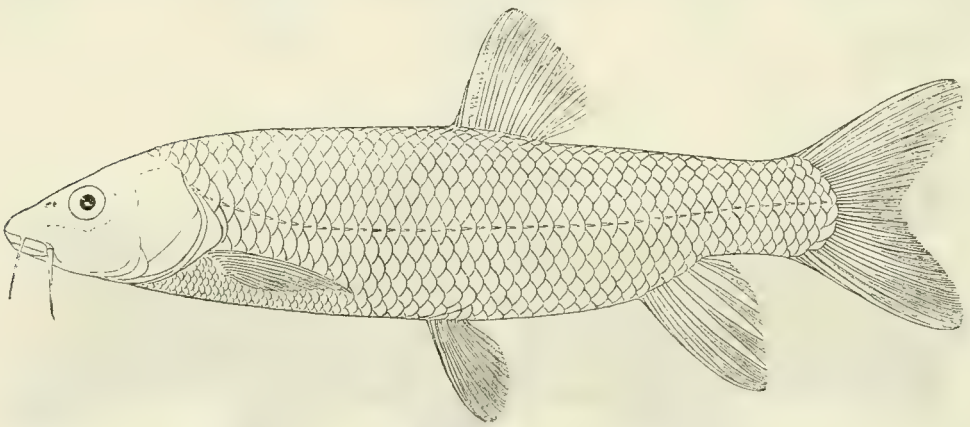
1–8. Types. Wed Ksib. Mr. F. W. Riggenbach (C.).

99. BARBUS ANTINORII, sp. n.

Barbus callensis (non C. & V.), Vincig. Ann. Mus. Genova, xx. 1884, p. 434.

Depth of body 4 to $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to

Fig. 89.



Barbus antinorii.
Type. $\frac{5}{7}$.

$4\frac{1}{5}$ times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye 4 (young) to 6 times in length of head, interorbital width $2\frac{1}{2}$ to 3 times; mouth inferior, its width 4 times in length of head; lips moderate, lower not extending across chin; two barbels on each side, subequal, $1\frac{1}{2}$ (young) to 2 diameters of eye. Dorsal III 7 (rarely 8), nearer root

of caudal than occiput, border slightly convex; last simple ray moderately strong, bony, strongly serrated, serrated part $\frac{2}{3}$ to $\frac{3}{5}$ length of head. Anal III 5, reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter partly in advance of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 44–47 $\frac{7\frac{1}{2}-8\frac{1}{2}}{8\frac{1}{2}-9\frac{1}{2}}$, 5–6 between lateral line and ventral, 18–20 round caudal peduncle. Brownish above, whitish beneath.

Total length 215 millim.

Tunisia.—Types in Genoa Museum.

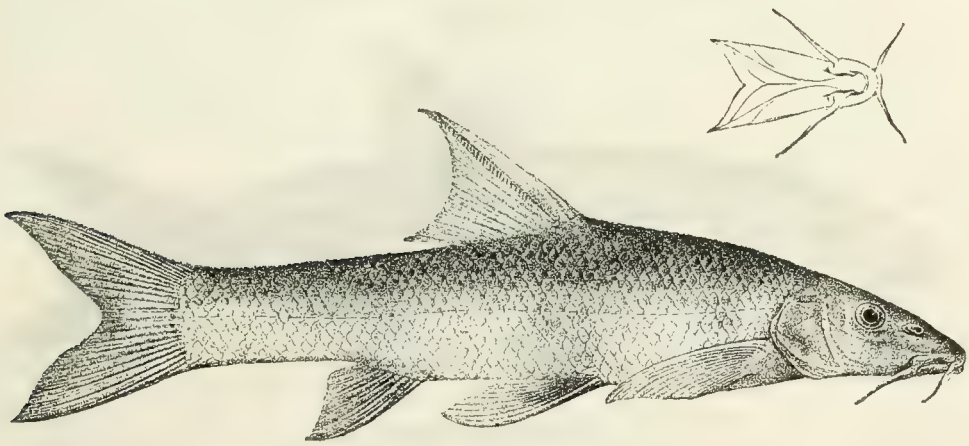
1. One of the types. Oasis of Nefzana. Marquis O. Antinori (C.); Genoa Museum (P.).

100. BARBUS NASUS.

Günth. Ann. & Mag. N. H. (4) xiii. 1874, p. 232, pl. xiv. fig. B, and Nov. Zool. viii. 1901, p. 368, pl. xix.

Depth of body 4 to 5 times in total length, length of head $3\frac{3}{4}$ to $4\frac{1}{4}$ times. Snout narrow, pointed, $2\frac{1}{3}$ to $2\frac{1}{2}$ times in length of head; eye 4 (young) to 6 times in length of head, interorbital width $3\frac{1}{2}$ to $4\frac{1}{2}$ times; mouth very narrow and inferior, its width $4\frac{1}{2}$ to 6 times in

Fig. 90.



Barbus nasus.
After Günther (Nov. Zool. 1901). $\frac{1}{2}$.

length of head; lips thick, not extending across chin; barbels two on each side, anterior $1\frac{1}{2}$ to 2 times diameter of eye, posterior $1\frac{2}{3}$ to $2\frac{1}{2}$ times. Dorsal IV 7–8, equally distant from eye and from root of caudal, border concave; last simple ray very strong, bony, strongly serrated, serrated portion $\frac{3}{5}$ to $\frac{3}{4}$ length of head. Anal III 5, not reaching

caudal. Pectoral nearly as long as head, or at least $\frac{3}{4}$ its length, narrowly separated from or nearly reaching ventral. First ray of ventral anterior to origin of dorsal. Caudal peduncle $1\frac{2}{3}$ to $1\frac{3}{4}$ times as long as deep. Scales radiately striated, 46–50 $\frac{8\frac{1}{2}\text{-}9\frac{1}{2}}{8\frac{1}{2}\text{-}10\frac{1}{2}}$, 4–5 between lateral line and ventral, 20–22 round caudal peduncle. Brownish or olive above, whitish beneath.

Total length 210 millim.

Morocco.

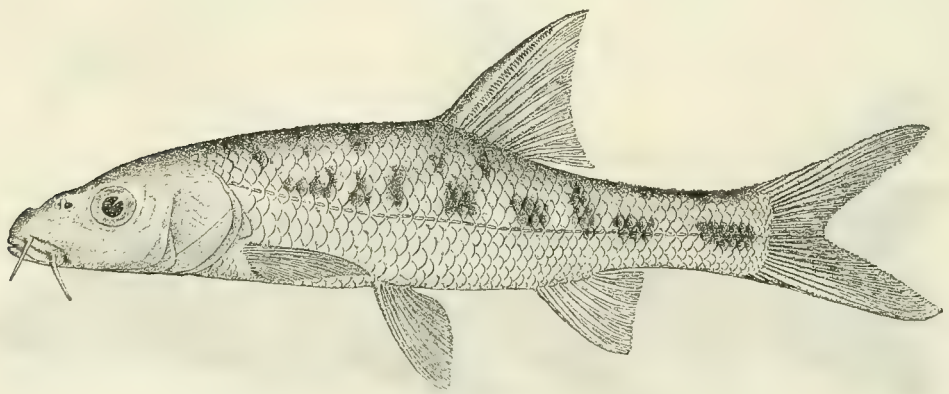
1–2. Hgr. & yg., types.	Morocco.	Prof. J. Rein & Dr. C. von Fritsch (C.).
3. Ad.	Oum Erbiah, near Mazagan.	Dr. E. Hartert (P.).
4. Hgr.	„ „	Mr. F. W. Riggenbach (C.).
5. Hgr.	R. Talmist.	„
6–7. Hgr.	Trigadir-el-hor.	E. G. B. Meade-Waldo, Esq. (P.).

101. BARBUS SERRA.

Peters, Mon. Berl. Ac. 1864, p. 394 ; Günth. Cat. Fish. vii. p. 94 (1868).

Depth of body $4\frac{1}{2}$ to $5\frac{1}{2}$ times in total length, length of head $3\frac{1}{3}$ to $3\frac{1}{2}$ times. Snout rounded, $\frac{1}{3}$ length of head ; eye $4\frac{1}{2}$ to 5 times in length

Fig. 91.



Barbus serra.
Olifants River.

of head, interorbital width $3\frac{1}{2}$ times ; mouth terminal, its width 4 times in length of head ; lips moderate, interrupted on the chin ; barbels two on each side, equal, as long as eye. Dorsal IV 8, equally distant from gill-opening and from root of caudal, border slightly concave ; last simple ray very strong, bony, strongly serrated, serrated portion $\frac{3}{5}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head,

nearly reaching ventral. Root of ventral entirely in front of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 44–46 $\frac{7-8}{7-8}$, 4–5 between lateral line and ventral, 20 round caudal peduncle. Brown above, with darker spots, white beneath.

Total length 110 millim.; grows to 180.

Cape Colony.—Type in Berlin Museum.

1. Hgr. Olifants R., Clanwilliam. South African Museum (E.).

102. BARBUS PALUDINOSUS.

Peters, Mon. Berl. Ac. 1852, p. 683; Günth. Cat. Fish. viii. p. 102 (1868); Peters, Reise Mossamb. iv. p. 51, pl. xi. fig. 1 (1868); Pfeff. Thierw. O.-Afr., Fische, p. 61 (1896); M. Weber, Zool. Jahrb., Syst. x. 1897, p. 151; Pellegr. Mém. Soc. Zool. France, xvii. 1905, p. 177.

Barbus welwitschii, Günth. t. c. p. 101.

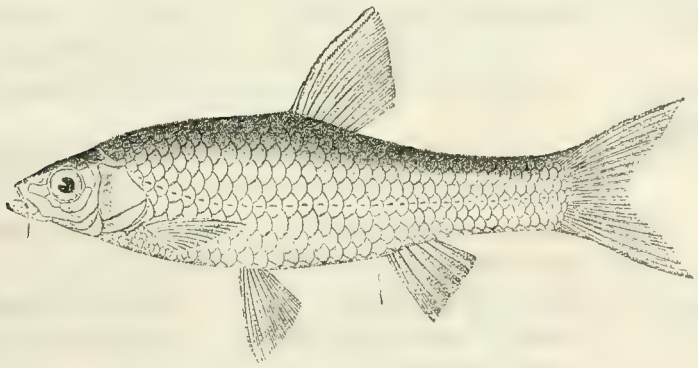
Barbus vinciguerrai, Pfeff. op. cit. p. 62; Hilgend. & Pappenh. Sitzb. Ges. naturf. Fr. Berl. 1903, p. 270; Hilgend. Zool. Jahrb., Syst. xxii. 1905, p. 413.

Barbus macropristis, Bouleng. Ann. & Mag. N. H. (7) xiii. 1904, p. 449, and Fish. Nile, p. 241, pl. xlvi. fig. 2 (1907).

Barbus macropristis meruensis, Lönnb. Kilim.-Meru Exped., Fish. p. 3 (1907).

Depth of body $3\frac{1}{2}$ to $4\frac{1}{3}$ times in total length, length of head $3\frac{2}{3}$ to 4

Fig. 92.



Barbus paludinosus.
Type, after Peters (Reise Mossamb.).

times. Snout rounded, as long as or a little shorter than eye, which is $3\frac{1}{2}$ to 4 times in length of head; interorbital width $2\frac{1}{2}$ to 3 times in length of head; mouth terminal or subinferior, its width $3\frac{1}{2}$ to 4 times in length of head; lips feebly developed; two barbels on each side, anterior about $\frac{1}{2}$, posterior $\frac{3}{4}$ to 1 diameter of eye. Dorsal III 7 (rarely 8), equally distant from eye or occiput and from root of caudal,

border straight or slightly concave; last simple ray very strong, bony, strongly serrated, as long as or a little shorter (rarely a little longer) than head. Anal III 5 *, not reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, usually reaching or nearly reaching ventral; base of latter entirely in advance of dorsal. Caudal peduncle $1\frac{3}{4}$ to 2 times as long as deep. Scales radiately striated, 34–39 $\frac{6\frac{1}{2}-7\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, 3–4 between lateral line and ventral, 16–18 round caudal peduncle. Green above (*fide* Peters), silvery white below, fins red; a black spot may be present at the base of the caudal.

Total length 105 millim.

East Africa to Angola, Orange River, and Natal.—Types in Berlin Museum.

1–3. Ad.	Akaki R., Hawash, S. Ethiopia.	Mr. P. C. Zaphiro (C.); W.N.McMillan, Esq.(P.).
4–5. Ad. & hgr.	Suksuk R., L. Zwai, S. Ethiopia.	Prof. O. Neumann & BaronC.vonErlanger(C.).
6–7. Types of *B. macropristis.*	L. Victoria.	Mr. W. G. Doggett (C.); Col. Delmé Radcliffe (P.).
8–9. Hgr.	Umbugwe, Masai, German East Africa.	Prof. O. Neumann (C.); Berlin Museum (E.).
10–12. Ad.	Ufiomi, „ „	„
13–15. Ad. & hgr.	Bubu R., „ „	„
16–19. Hgr., types.	Quellimane, Mozambique.	Prof. W. Peters (C.); Berlin Museum (E.).
20–22. Types of *B. welwitschii.*	Huilla, Benguella.	Dr. Welwitsch (P.).
23. Ad.	Interior of Benguella, 4000–5000 ft.	Dr. F. C. Wellman (P.).
24. Hgr.	Mucopa R., Mossamedes.	Dr. W. J. Ansorge (C.).
25. Hgr.	Mpomenene, „	„
26. Ad.	Mazoë, Mashonaland.	J.ffolliott Darling, Esq.(P.).
27–32. Ad.	Groot Olifant R. at Kalkfontein, Transvaal.	S. Pershouse, Esq. (P.).
33–38. Yg.	Vredefort West, Orange R. C.	Capt. Barrett-Hamilton (P.).
39–41. Ad.	Umfulosi Station, Zululand.	Mr. C. Grant (C.); C. D. Rudd, Esq. (P.).
42–44. Ad.	Indukuduku, Zululand.	Dr. E. Warren (P.).
45–46. Hgr.	Nxeba R., „	Prof. E. Lönnberg (P.).
47–53. Hgr.	Durban, Natal.	Col. Bowker (P.).
54–69. Hgr.	„	Rev. N. Abraham (P.).

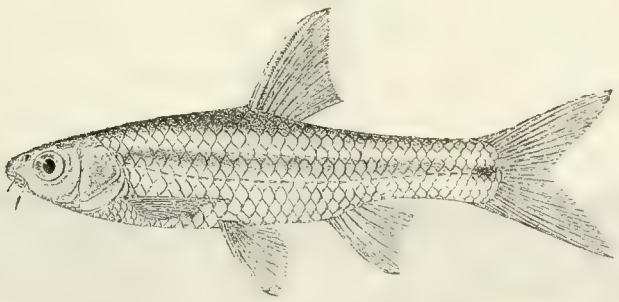
* One specimen (Mazoë, Rhodesia) has 6.

103. BARBUS TAITENSIS.

Günth. Proc. Zool. Soc. 1894, p. 91.

Depth of body $4\frac{1}{3}$ times in total length, length of head 4 times. Snout shorter than eye, which is $3\frac{1}{3}$ to $3\frac{1}{2}$ times in length of head; interorbital width 3 times in length of head; mouth small, terminal; lips feebly developed; two barbels on each side, anterior $\frac{1}{2}$ length of eye, posterior as long as eye. Dorsal III 7, equally distant from eye and from caudal; last simple ray strong, bony, serrated, as long as head. Anal III 5, not reaching caudal. Pectoral nearly as long as head, reaching ventral; base of latter entirely in advance of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 32–33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$. $2\frac{1}{2}$ between lateral line and ventral, 14 round caudal peduncle. Silvery,

Fig. 93.



Barbus taitensis.
Type.

with a bluish band along the middle of the side, the band terminating in a small blackish spot at the root of the caudal fin.

Total length 70 millim.

Taita district, inland of Mombasa, British East Africa.

1–2. Types. Taita. Mr. Wray (C.).

104. BARBUS PFEFFERI.

Barbus altus (non Günth.), Pfeffer, Thierw. O.-Afr., Fische, p. 60 (1896).
Barbus pfefferi, Bouleng. Ann. & Mag. N. H. (7) xvi. 1905, p. 43.

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head 4 to $4\frac{1}{2}$ times. Snout rounded, shorter than eye, which is 3 to $3\frac{1}{2}$ times in length of head; interorbital width $2\frac{1}{3}$ times in length of head; mouth terminal; lips feebly developed; two barbels on each side, anterior slightly shorter, posterior slightly longer than eye. Dorsal III 8, equally distant from eye and from caudal, border slightly concave; last simple

ray very strong, bony, strongly serrated, as long as head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, reaching ventral; base of latter entirely in advance of dorsal. Scales radiately striated, 33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 14 round caudal peduncle. Silvery, back brownish.

Total length 90 millim.

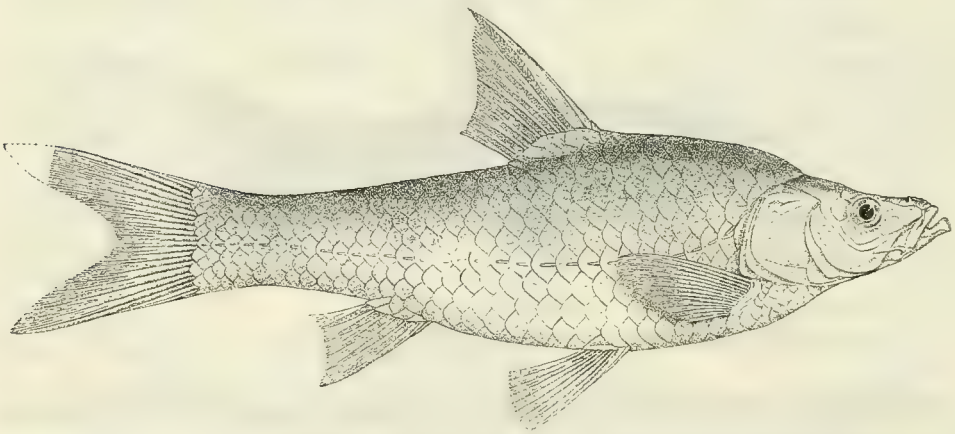
Kingani River, German East Africa.—Types, in Berlin Museum, examined.

105. BARBUS MATTOZI.

Guimaraes, Jorn. Sci. Lisb. x. 1884, p. 7, pl. ii. fig. 1.

Depth of body $3\frac{1}{4}$ times in total length, length of head $3\frac{3}{4}$ times. Snout pointed, $3\frac{1}{2}$ times in length of head; eye 6 times in length of

Fig. 94.



Barbus mattozi.
Type, after Guimaraes (*l. c.*). $\frac{1}{2}$.

head, interorbital width $3\frac{1}{2}$ times; mouth terminal, chin slightly projecting; lips feebly developed; two barbels on each side, anterior $\frac{1}{2}$ diameter of eye, posterior as long as eye. Dorsal IV 8, equally distant from anterior border of eye and from root of caudal, border slightly concave; last simple ray very strong, bony, serrated, a little shorter than head. Anal III 5, not reaching caudal. Pectoral nearly reaching ventral; base of latter entirely in advance of dorsal. Caudal peduncle nearly twice as long as deep. Scales 33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 3 between lateral line and ventral, 14 round caudal peduncle. Silvery, brownish on the back.

Total length 256 millim.

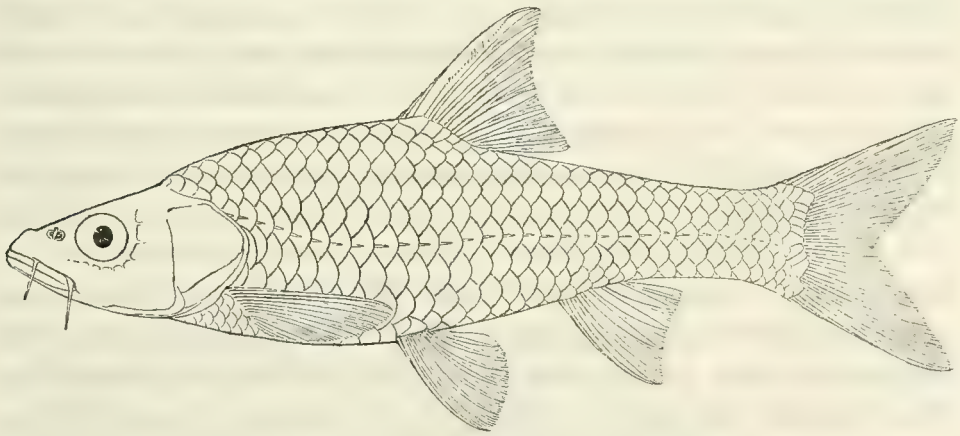
Coroca River, Angola.—Type in Lisbon Museum.

106. BARBUS RAPAX.

Steind. Sitzb. Ak. Wien, ciii. i. 1894, p. 451, pl. iv. fig. 2; Bouleng. Proc. Zool. Soc. 1907, p. 307.

Depth of body $3\frac{1}{3}$ to $3\frac{1}{2}$ times in total length, length of head 3 to $3\frac{1}{2}$ times. Snout rather pointed, 3 to $3\frac{1}{2}$ times in length of head; eye 4 to $5\frac{1}{2}$ times in length of head, interorbital width 4 times; mouth terminal, its width $3\frac{1}{2}$ to 4 times in length of head; lips moderate, interrupted on the chin; two barbels on each side, anterior $\frac{3}{5}$ to $\frac{3}{4}$, posterior $\frac{4}{5}$ to 1 diameter of eye. Dorsal IV 8, equally distant from centre of eye and from root of caudal, border slightly concave; last simple ray strong, bony, strongly serrated, the serrated part about $\frac{2}{3}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head, reaching

Fig. 95.



Barbus rapax.
Groot Olifant R.

or nearly reaching ventral; first ray of latter just in front of vertical of origin of dorsal. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales radiately striated, 30–33 $\frac{5\frac{1}{2}-6\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 14 round caudal peduncle. Silvery, olive-brown on the back; fins colourless or reddish.

Total length 125 millim. (grows to 300).

Transvaal and Eastern Bechuanaland (Limpopo System).—Type in Vienna Museum.

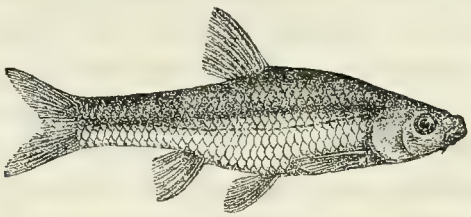
1–3. Hgr. Groot Olifant R., Transvaal. Major G. E. Bruce (C.).

107. BARBUS THIKENSIS.

Bouleng. Proc. Zool. Soc. 1905, i. p. 63, pl. vii. fig. 2.

Depth of body equal to length of head, $3\frac{1}{2}$ to $3\frac{2}{3}$ times in total length. Snout rounded, as long as eye, which is $3\frac{1}{2}$ to 4 times in length of head; interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times in length of head; mouth small,

Fig. 96.



Barbus thikensis.
Type (P. Z. S. 1905).

terminal; lips feebly developed; two barbels on each side, anterior $\frac{2}{3}$ diameter of eye, posterior a little shorter than eye. Dorsal III 7, equally distant from eye and from root of caudal, border straight or slightly convex; last simple ray bony, strongly serrated, about $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching or nearly reaching ventral; base of latter partly in front of and partly beneath dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 33–35 $\frac{5\frac{1}{2}-6\frac{1}{2}}{6\frac{1}{2}}$, 3–$3\frac{1}{2}$ between lateral line and ventral, 12–14 round caudal peduncle. Brownish, with a more or less distinct dark streak along the middle of the side; lateral line often blackish; fins grey; a blackish spot sometimes present at base of anal.

Total length 55 millim.

Thika R. (Tana System), East Africa; Lake Victoria.

1–30. Types.	Thika R., 3000 ft.	S. L. Hinde, Esq. (P.).
31. Ad.	Kisumu Bay, L. Victoria.	A. Blayney Percival, Esq. (P.).

108. BARBUS PLEUROGRAMMA.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 436, and Fish. Nile, p. 242, pl. xlvii. fig. 1 (1907).

Depth of body equal to length of head, 4 times in total length. Snout rounded, shorter than eye, which is $3\frac{1}{2}$ times in length of head; interorbital width 3 times in length of head; mouth terminal, its width $4\frac{1}{2}$ times in length of head; lips feebly developed; two barbels on each

side, anterior barely $\frac{1}{2}$, posterior nearly $\frac{3}{4}$ diameter of eye. Dorsal III 7, equally distant from centre of eye and from root of caudal, border straight; last simple ray bony, strongly serrated behind, $\frac{4}{5}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 35 $\frac{6\frac{1}{2}}{5\frac{1}{2}}$,

Fig. 97.

Barbus pleurogramma.
Type (F. N.).

3 between lateral line series and ventral, 16 round caudal peduncle; lateral line reduced to its anterior portion (5–8 tubules). Silvery, brownish on the back; a black line along each side of the body.

Total length 40 millim.

Lake Tsana, Abyssinia.

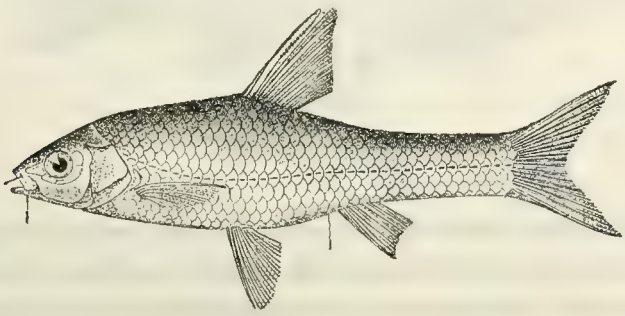
1–3. Types.	Bahardar, L. Tsana.	Mr. E. Degen (C.).
4. Type.	Unfras R., „	„

109. BARBUS LONGICAUDA.

Barbus gibbosus (non C. & V.), Peters, Mon. Berl. Ac. 1852, p. 683; Günth. Cat. Fish. vii. p. 101 (1868); Peters, Reise Mossamb. iv. p. 52, pl. xi. fig. 2 (1868).

Barbus longicauda, Bouleng. Proc. Zool. Soc. 1905, i. p. 63.

Fig. 98.



Barbus longicauda.
Type, after Peters (Reise Mossamb.).

Depth of body nearly equal to length of head, which is $3\frac{1}{2}$ to 4 times

in total length. Snout rounded, as long as eye, which is $3\frac{1}{2}$ (young) to 4 times in length of head; interorbital width nearly 3 times in length of head; mouth terminal; lips moderate; two barbels on each side, anterior about $\frac{1}{2}$ length of eye, posterior as long as eye. Dorsal III 7, equally distant from anterior or posterior border of eye and from root of caudal, border nearly straight; last simple ray strong, bony, serrated, as long as or a little shorter than head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, reaching or not ventral; first ray of latter a little in advance of dorsal. Caudal peduncle 2 to $2\frac{1}{3}$ times as long as deep. Scales radiately striated, 35–37 $\frac{6\frac{1}{2}\text{-}7\frac{1}{2}}{5\frac{1}{2}}$, 3–4 between lateral line and ventral, 14–16 round caudal peduncle. Green above (*fide* Peters), silvery white beneath.

Total length 80 millim.

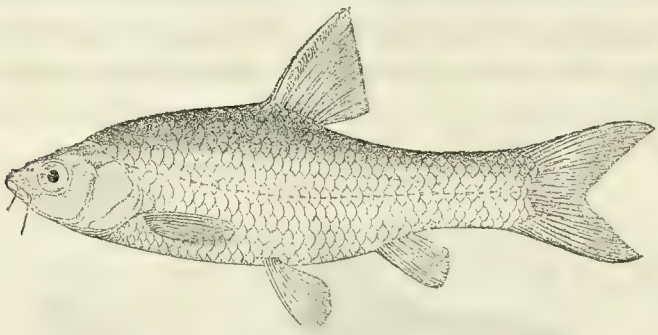
Lower Zambesi (types in Berlin Museum), and Athi River System, East Africa.

1–3. Ad. & hgr.	Nairobi R., trib. of Athi R., 3500 ft.	A. Blayney Percival, Esq. (P.).

110. BARBUS AKAKIANUS, sp. n.

Depth of body $3\frac{1}{3}$ times in total length, length of head $3\frac{2}{3}$ times. Snout rounded, as long as eye, which is 4 times in length of head;

Fig. 99.



Barbus akakianus.
Type.

interorbital width 3 times in length of head; mouth subinferior, its width 4 times in length of head; lips feebly developed; two barbels on each side, anterior nearly as long as eye, posterior $1\frac{1}{3}$ diameters of eye. Dorsal III 7, equally distant from eye and from root of caudal, border straight; last simple ray very strong, bony, strongly serrated, slightly shorter than head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length

of head, not reaching ventral; base of latter below anterior half of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 37 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, 4 between lateral line and ventral, 16 round caudal peduncle. Silvery, back brownish.

Total length 85 millim.

Akaki River (Hawash System), Southern Ethiopia.

1. Type.	Akaki R.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).

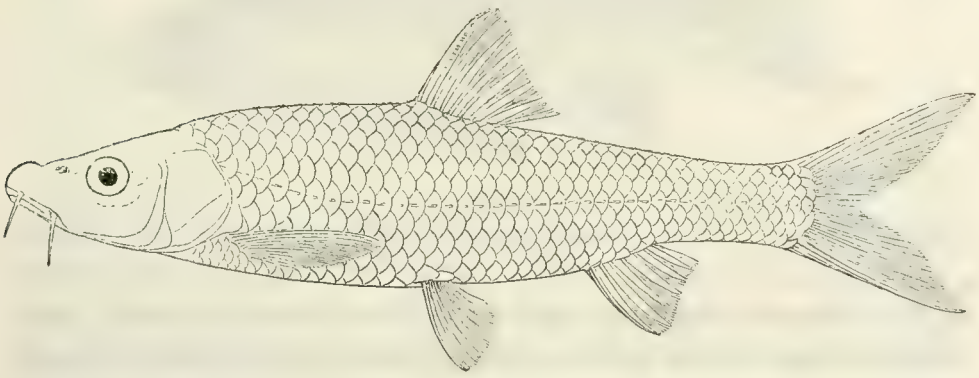
111. BARBUS CAPENSIS.

Barbus (*Cheilobarbus*) *capensis*, A. Smith, Ill. Zool. S. Afr., Fish. pl. x. fig. 1 (1841).

Barbus capensis, Günth. Cat. Fish. vii. p. 98 (1868).

Depth of body 4 to $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{4}$ to $3\frac{2}{3}$ times. Snout rounded, $\frac{1}{3}$ to $\frac{2}{5}$ length of head; eye 4 (young) to 7 times in length of head; interorbital width 3 to 4 times; mouth terminal or subinferior, its width 5 to 6 times in length of head; lips rather strongly developed, interrupted on the chin; two barbels on each side, equal, as long as the eye or a little longer. Dorsal III 8, equally distant from eye and from root of caudal, border slightly concave; last simple ray

Fig. 100.



Barbus capensis.
Burg R. $\frac{5}{7}$.

rather strong, bony, serrated, serrated portion about half length of head. Anal III 6, not reaching caudal. Pectoral about $\frac{2}{3}$ length of head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 39–40 $\frac{5\frac{1}{2}-6\frac{1}{2}}{6\frac{1}{2}}$, 4 between lateral line and ventral, 16 round caudal peduncle. Olive-brown above, yellowish beneath.

Total length 380 millim.

Cape Colony.

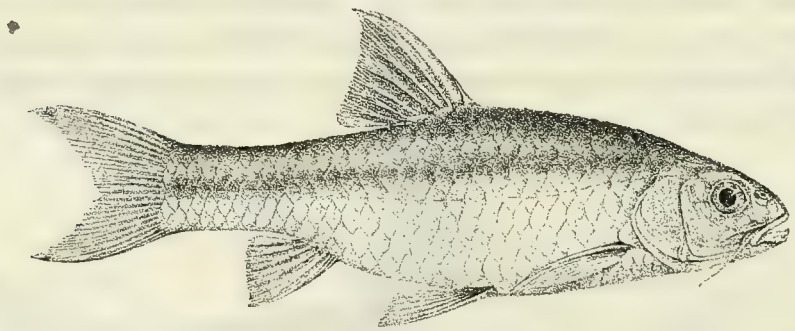
1. Type, stuffed.	W. Coast of Cape Colony.	Sir A. Smith (P.).
2. Hgr.	Burg R., Paarl Division.	South African Museum (E.).
3. Skel.	„ „	„
4. Hgr.	Burg R., near Paarl.	Dr. J. D. F. Gilchrist (P.).
5–6. Hgr. & yg.	Burg R., Wellington.	Mr. Seimund (C.); Col. Sloggett (P.).

112. BARBUS SERRIFER.

Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 479, Poiss. Bass. Congo, p. 225 (1901), and Tr. Zool. Soc. xvi. 1901, p. 145, pl. xiv. fig. 1.

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to $4\frac{1}{3}$ times. Snout rounded, nearly as long as or a little longer than eye, which is 3 (young) to $4\frac{1}{3}$ times in length of head; interorbital width

Fig. 101.



Barbus serrifer.
Type (Tr. Z. S. 1901). $\frac{8}{9}$.

$2\frac{1}{2}$ to 3 times in length of head; mouth small, terminal, with feebly developed lips; two pairs of barbels, posterior longer, twice as long as eye in adult (scarcely longer than eye in young). Dorsal III 7, equally distant from eye and from root of caudal, border straight; last simple ray strong, bony, serrated, a little shorter than head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, reaching or nearly reaching ventral; base of latter partly in advance of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales radiately striated, 26–30 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Olive-brown or olive-green above, silvery white beneath;

a greyish stripe along each side of the body above the lateral line; a small blackish spot at base of caudal.

Total length 120 millim.

Lake Tanganyika.

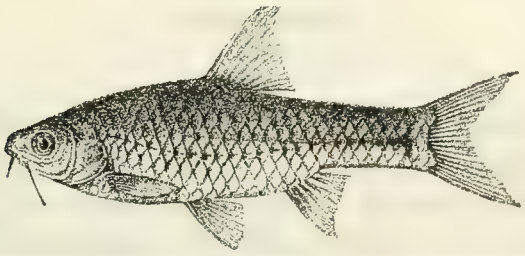
1–3. Types.	N. end of Tanganyika.	Prof. J. E. S. Moore (C.).
4–8. Hgr. & yg.	Kituta.	Dr. W. A. Cunnington (C.).

113. BARBUS LUMIENSIS.

Bouleng. Ann. & Mag. N. H. (7) xi. 1903, p. 52, pl. v. fig. 2.

Depth of body $3\frac{1}{2}$ times in total length, length of head 4 times. Snout rounded, as long as eye, which is 4 times in length of head; interorbital width $2\frac{1}{3}$ times in length of head; mouth small, terminal; lips moderate, interrupted on the chin; barbels two on each side, anterior slightly longer than eye, posterior nearly twice as long as eye.

Fig. 102.



Barbus lumiensis.
Type (Ann. & Mag. N. H. 1903).

Dorsal III 7, nearer occiput than base of caudal, border slightly emarginate; last simple ray bony, strongly serrated, nearly as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{4}{5}$ length of head, not reaching ventral; base of latter entirely in advance of dorsal. Caudal peduncle $1\frac{3}{4}$ times as long as deep. Scales radiately striated, 27 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Silvery, brownish on the back, scales edged with dark brown; fins whitish.

Total length 70 millim.

Kilimanjaro, East Africa.

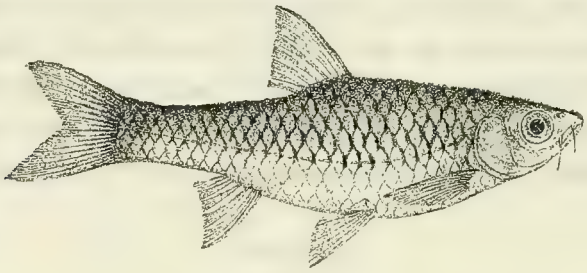
1. Type.	R. Lumi, east side of Kilimanjaro, running into Lake Jipi.	A. Blayney Percival, Esq. (C.).

114. BARBUS MINCHINI.

Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 436, and Fish. Nile, p. 245, pl. xlv. fig. 4 (1907).

Depth of body $3\frac{1}{3}$ times in total length, length of head 4 times. Snout rounded, 4 times in length of head; eye $3\frac{1}{2}$ times in length of head, interorbital width $2\frac{1}{2}$ times; mouth terminal, its width $\frac{1}{3}$ length of head; lips moderately developed; two barbels on each side, anterior $\frac{2}{3}$ diameter of eye, posterior as long as eye. Dorsal III 7, equally

Fig. 103.



Barbus minchini.
Type (F. N.). $\frac{7}{8}$.

distant from eye and from root of caudal, border nearly straight; last simple ray strong, bony, serrated, a little shorter than head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not quite reaching ventral; base of latter entirely in advance of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 25–26 $\frac{5\frac{1}{2}}{6\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12–14 round caudal peduncle. Olive above, silvery white beneath, the scales blackish at the base; a bright yellow or scarlet spot on the gill-cover; pectoral and ventral fins yellow; dorsal, anal, and caudal fins scarlet, yellow at the base.

Total length 88 millim.

Lake Victoria.

1–2. Types. Entebbe. Mr. E. Degen (C.).

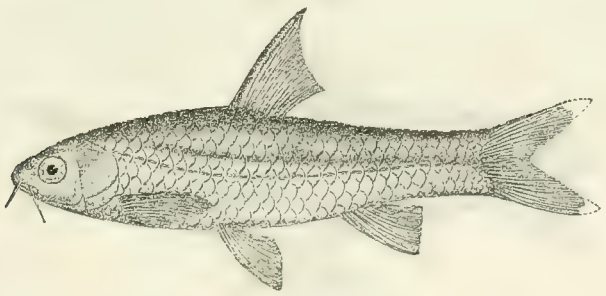
115. BARBUS ANSORGII.

Bouleng. Ann. & Mag. N. H. (7) xiv. 1904, p. 16.

Depth of body $3\frac{1}{2}$ to $3\frac{3}{4}$ times in total length, length of head 4 to $4\frac{1}{3}$ times. Snout rounded, slightly shorter than eye, which is $3\frac{1}{2}$ times in length of head; interorbital width 3 times in length of head; mouth

subinferior, its width $3\frac{2}{3}$ times in length of head; lips feebly developed; two barbels on each side, anterior a little shorter, posterior a little longer than eye. Dorsal III 7, a little nearer occiput than root of caudal, border feebly concave; last simple ray very strong, bony, strongly serrated, a little longer than head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, nearly reaching ventral; base of latter entirely in advance of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales 28–29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral,

Fig. 104.



Barbus ansorgii.
Type.

12–13 round caudal peduncle. Brownish above, silvery white beneath, with an ill-defined dark lateral band above the lateral line; fins uniform whitish.

Total length 70 millim.

Angola.

1–2. Types. Luache R. at Bange Ngola. Dr. W. J. Ansorge (C.).

116. BARBUS TETRASPILUS.

Pfeff. Thierw. O.-Afr., Fische, p. 59 (1896).

Depth of body a little greater than length of head, which is about $3\frac{1}{2}$ times in total length. Snout shorter than eye, which is 3 to $3\frac{1}{2}$ times in length of head; interorbital width about 3 times in length of head; two barbels on each side, posterior longer than eye. Dorsal III 7; last simple ray rather feeble, slender, serrated. Anal III 5. Pectoral not quite reaching ventral; base of latter partly in advance of dorsal. Caudal peduncle little longer than deep. Scales radiately striated, 31 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral. Brown above, golden yellow beneath; four large round black spots on each side, the first above the

pectoral, the second in front of vertical of dorsal, the third behind the vertical of dorsal, the fourth at base of caudal; fins whitish.

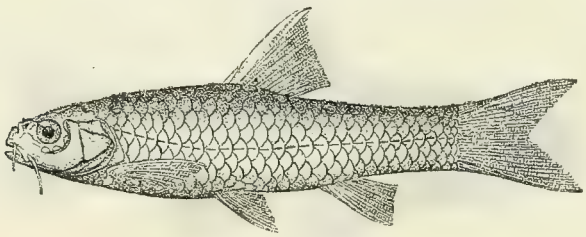
Total length 50 millim.

Kavalli R., Bukoba, Upper Ituri (Congo System).—Type in Berlin Museum.

117. BARBUS LATICEPS.

Pfeff. Jahrb. Hamb. Wiss. Anst. x. 2, 1893, p. 38, pl. i. fig. 4, and Thierw. O.-Afr., Fische, p. 57 (1896).

Fig. 105.



Barbus laticeps.
Type, after Pfeffer (*l. c.*).

Depth of body nearly equal to length of head, 4 times in total length. Snout a little shorter than eye, which is $3\frac{1}{2}$ times in length of head; interorbital width twice in length of head; mouth terminal; lips rather thin; two barbels on each side, anterior a little shorter than posterior, which is $1\frac{1}{2}$ diameters of eye. Dorsal III 7, equally distant from eye and from root of caudal, border straight; last simple ray strong, serrated, as long as head. Anal III 5, not reaching caudal. Pectoral not reaching ventral; base of latter partly in advance of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales 28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3 between lateral line and ventral. Silvery, back brownish.

Total length 70 millim.

Wami River, German East Africa.—Types in Berlin Museum.

118. BARBUS SEXRADIATUS, sp. n.

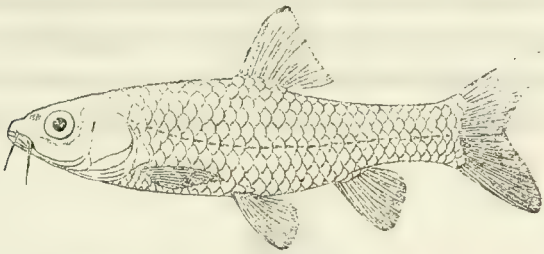
Depth of body equal to length of head, $3\frac{1}{2}$ times in total length. Snout rounded, slightly longer than eye, which is 4 times in length of head; interorbital width $2\frac{1}{2}$ times in length of head; mouth small, terminal; lips feebly developed; two barbels on each side, posterior a little longer than anterior and $1\frac{1}{2}$ diameters of eye.

Dorsal III 6, equally distant from eye and from root of caudal, border nearly straight; last simple ray bony, strongly serrated, shorter than head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not quite reaching ventral; origin of latter somewhat in front of origin of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Brownish above, silvery beneath.

Total length 65 millim.

Lake Victoria.

Fig. 106.



Barbus sexradiatus.
Type.

1. Type. Kisumu Bay, Kavirondo. A. Blayney Percival, Esq. (P.).

119. BARBUS SALMO.

Pfeff. Thierw. O.-Afr., Fische, p. 56 (1896).

Depth of body $3\frac{1}{3}$ times in total length, length of head not quite 4 times. Snout obtusely pointed, slightly longer than eye, which is $4\frac{1}{2}$ times in length of head; interorbital width $2\frac{1}{2}$ times in length of head; mouth subinferior; lips rather thin; two barbels on each side, posterior $1\frac{2}{5}$ diameters of eye. Dorsal III 7; last simple ray very strong, bony, serrated, nearly as long as head. Anal III 5. Pectoral not quite reaching ventral; base of latter in advance of dorsal. Scales 26 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral. Brown above, silvery white beneath; a dark lateral streak, more distinct on the caudal part of the body.

Total length 85 millim.

Pangani River, East Africa.—Type in Berlin Museum.

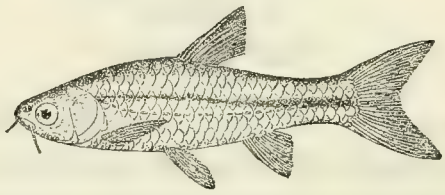
120. BARBUS KERSTENII.

Peters, Mon. Berl. Ac. 1868, p. 601, and Decken's Reise O.-Afr. iii. p. 146 (1869); Pfeff. Thierw. O.-Afr., Fische, p. 55 (1896); Hilgend. Zool. Jahrb., Syst. xxii. 1905, p. 414.

Barbus nigrolinea, Pfeff. Jahrb. Hamb. Wiss. Anst. vi. 2, 1889, p. 19, and x. 2, 1893, p. 36, pl. i. fig. 3.

Depth of body $3\frac{1}{3}$ to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to $3\frac{2}{3}$ times. Snout rounded, as long as or a little shorter than eye, which is 3 to $3\frac{1}{2}$ times in length of head; interorbital width $2\frac{1}{3}$ to $2\frac{1}{2}$ times in length of head; mouth terminal, its width 4 times in length of head; lips thin; two barbels on each side, anterior a little shorter than eye, posterior as long as eye or a little longer. Dorsal III 7, equally distant from centre or posterior border of eye and from root of caudal, border straight; last simple ray very strong, bony, strongly serrated, its bony

Fig. 107.



Barbus kerstenii.
Kilimanjaro.

part nearly as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, reaching or nearly reaching ventral; base of latter nearly entirely in advance of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales 25–26 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Silvery, brownish on the back, scales sometimes dark-edged; a rather indistinct dark lateral streak.

Total length 85 millim.

Kilimanjaro and Masai Districts, German East Africa.—Type in Berlin Museum.

1–2. Hgr.	Kaka, Kilimanjaro.	Prof. O. Neumann (C.).
3–4. Hgr.	Umbugwe, Masai District.	,,

121. BARBUS EUTÆNIA.

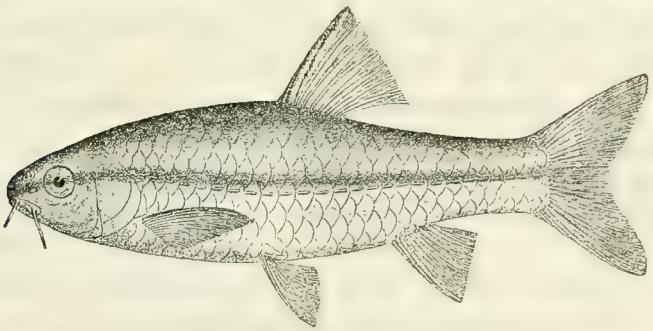
Barbus kessleri, part., Günth. Cat. Fish. vii. p. 107 (1868).

Barbus eutænia, Bouleng. Ann. & Mag. N. H. (7) xiv. 1904, p. 218, Mem. Manchest. Lit. & Phil. Soc. li. 1907, no. 12, p. 2, and Proc. Zool. Soc. 1907, p. 308.

Barbus miolepis, Bouleng. Mem. Manchest. l. c.

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head $3\frac{2}{3}$ to $4\frac{1}{3}$ times. Snout rounded, as long as eye, which is $3\frac{1}{3}$ to 4 times in length of head; interorbital width $2\frac{1}{2}$ to 3 times in length of head; mouth terminal, its width 3 to 4 times in length of head; lips feebly developed; barbels two on each side, posterior a little longer than anterior and as long as or slightly longer than eye. Dorsal III 7, equally distant from posterior border of eye and from root of caudal, border straight; last simple ray strong, bony, strongly serrated, its bony

Fig. 108.



Barbus eutænia.
Type.

part $\frac{3}{4}$ to once length of head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter nearly entirely in advance of dorsal. Caudal peduncle about $1\frac{1}{2}$ times as long as deep. Scales 24–28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 11–14 round caudal peduncle. Brown above, silvery beneath; a more or less distinct straight blackish band, often extending from the end of the snout, through the eye, to the caudal.

Total length 100 millim.

Angola, Rhodesia, Transvaal.

1–5. Types.	Huilla, Mossamedes.	Dr. Welwitsch (P.).
6. Ad.	Kafulafuta R. (Zambesi System), N.W. Rhodesia.	S. A. Neave, Esq. (C.).

7–8. Hgr.	Umsitu R. (Zambesi System), N.W. Rhodesia.	Rev. F. A. Rogers and E. C. Chubb, Esq. (P.).
9–15. Ad. & hgr.	Mountain stream near Petauke (Zambesi System), N.E. Rhodesia.	S. A. Neave, Esq. (C.).
16–20. Ad.	Klein Olifant R., Transvaal.	Major G. E. Bruce (P.).

122. BARBUS NEUMAYERI.

J. G. Fischer, Jahrb. Hamb. Wiss. Anst. i. 1884, p. 31; Pfeff. Thierw. O.-Afr., Fische, p. 59 (1896).

Depth of body nearly equal to length of head, $4\frac{1}{4}$ times in total length. Snout $1\frac{1}{2}$ times as long as eye, which is $5\frac{1}{4}$ times in length of head; mouth inferior; lips thick; two barbels on each side, anterior slightly longer than eye, posterior nearly twice as long as eye. Dorsal III 7, a little nearer root of caudal than end of snout, border emarginate; last simple ray strong, bony, serrated, $\frac{2}{3}$ length of head. Anal III 5. Pectoral not reaching ventral; base of latter below anterior rays of dorsal. Scales 30–31 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$, 3 between lateral line and ventral. Upper parts dark brown, lower whitish, the two sharply defined.

Total length 110 millim.

Nguruman, Masai District, German East Africa.—Type in Hamburg Museum.

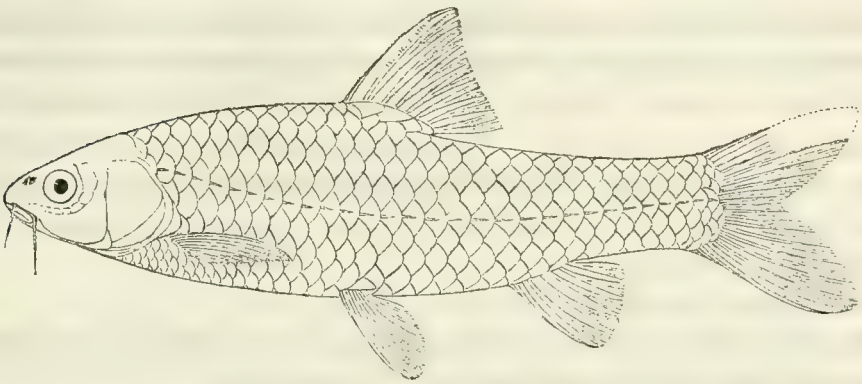
123. BARBUS NAIROBIENSIS, sp. n.

Depth of body equal or nearly equal to length of head, $3\frac{2}{3}$ to 4 times in total length. Snout rounded, longer than eye, which is 4 to 5 times in length of head; interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times in length of head; mouth terminal or subinferior, its width about $\frac{1}{3}$ length of head; lips moderately developed, interrupted on chin; two barbels on each side, anterior $1\frac{1}{2}$ to 2, posterior 2 to $2\frac{1}{2}$ diameters of eye. Dorsal III 7, equally distant from centre or posterior border of eye and from root of caudal, border slightly concave; last simple ray strong, bony, coarsely serrated behind, shorter than head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales 28–30 $\frac{4\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Brownish above, silvery white beneath, with a very indistinct dark lateral stripe; fins whitish.

Total length 110 millim.

Nairobi River (tributary of Athi River), British East Africa.

Fig. 109.



Barbus nairobiensis.
Type.

1–4. Ad. & hgr., types. Nairobi R., 3500 ft. A. Blayney Percival, Esq. (P.).

124. BARBUS PORTALI.

Bouleng. Ann. & Mag. N. H. (7) xviii. 1906, p. 36, and Fish. Nile, p. 243, pl. xlv. fig. 2 (1907).

Depth of body equal to length of head, $3\frac{1}{2}$ to 4 times in total length. Snout rounded, as long as (young) or longer than eye, which is $3\frac{1}{2}$ to $4\frac{1}{2}$

Fig. 110.

Barbus portali.
Type (F. N.).

times in length of head; interorbital width 3 times in length of head; mouth terminal, its width about $\frac{1}{3}$ length of head; lips moderately

developed, interrupted on the chin; two barbels on each side, anterior 1 (young) to $1\frac{3}{4}$, posterior $1\frac{1}{3}$ (young) to $2\frac{1}{2}$ diameters of eye. Dorsal III 7, equally distant from eye and from root of caudal, border straight or slightly concave; last simple ray strong, bony, coarsely serrated behind, much shorter than head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales 28–32 $\frac{4\frac{1}{2}-5\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, 3–4 between lateral line and ventral, 12 round caudal peduncle. Yellowish, back olive-brown; a dark greyish lateral stripe with or without two or three blackish blotches in its course; fins whitish.

Total length 100 millim.

Mountain streams tributary of the Mpanga River (flowing into Lake Ruisamba) east of Mt. Ruwenzori, and Victoria Nile.

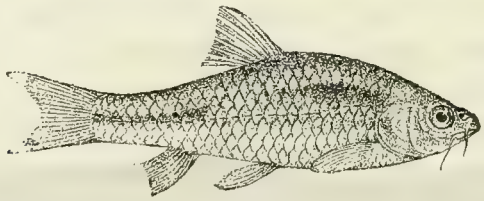
1–4. Types.	Fort Portal, 4500 ft.	R. B. Woosnam, Esq. (C.).
5–14. Yg.	Mpanga R., Fort Portal.	Sir D. Bruce (P.).
15–16. Ad.	Mabira Forest, W. of Ripon Falls.	Dr. C. Christy (P.).

125. BARBUS CARPIO.

Pfeff. Thierw. O.-Afr., Fische, p. 57 (1896); Bouleng. Fish. Nile, p. 244, pl. xlv. fig. 3 (1907).

Depth of body $3\frac{1}{3}$ to $3\frac{3}{4}$ times as long as deep, length of head $3\frac{1}{4}$ to

Fig. 111.



Barbus carpio.
Type (F. N.).

$3\frac{1}{3}$ times. Snout rounded, longer than eye, which is $4\frac{1}{4}$ to 5 times in length of head; interorbital width $2\frac{1}{2}$ to 3 times in length of head; mouth subinferior; lips rather thick; two barbels on each side, anterior $1\frac{1}{4}$, posterior about $1\frac{1}{2}$ diameters of eye. Dorsal IV 7, about equally distant from eye and from root of caudal, border nearly straight; last simple ray strong, bony, serrated, stiff part much shorter than head.

Anal III 5, not reaching caudal. Pectoral not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales 28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Brown above, silvery beneath; a dark lateral band, more distinct on the caudal part of the body, sometimes extending forwards, interrupted, to upper extremity of gill-cover; dorsal and caudal fins greyish or blackish.

Total length 67 millim.

Lake Albert.—Types in Hamburg Museum.

126. BARBUS PERCIVALI.

Boulenq. Ann. & Mag. N. H. (7) xi. 1903, p. 52, pl. v. fig. 1; Pellegr. Mém. Soc. Zool. France, xvii. 1905, p. 178; Lönnb. Kilim.-Meru Exped., Fish. p. 4 (1907).

Depth of body equal to length of head, $3\frac{1}{2}$ to 4 times in total length. Snout rounded, as long as eye, which is $3\frac{1}{2}$ to 4 times in length of head; interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times in length of head; mouth small, subinferior; lips moderate, interrupted on the chin; barbels two on each side, anterior as long as eye or a little longer, posterior $1\frac{1}{3}$ to $1\frac{1}{2}$ diameters of eye. Dorsal III 6–7, nearer occiput than base of caudal, border scarcely emarginate; last simple ray bony, strongly serrated,

Fig. 112.

Barbus percivali.
Type (Ann. & Mag. N. H. 1903).

about $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ to $1\frac{3}{4}$ times as long as deep. Scales 28–30 $\frac{4\frac{1}{2}-5\frac{1}{2}}{5\frac{1}{2}}$, 3–$3\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Silvery, brownish on the back; two or three black spots on each side, first or first two above lateral line, last at base of caudal;

a small black spot on each side of base of dorsal at its origin; a more or less distinct dark streak along lower surface of caudal peduncle.

Total length 55 millim.

Kilimanjaro, East Africa.

1–10. Types.	Nairobi R., east side of Kilimanjaro, 6500 ft.	A. Blayney Percival, Esq. (C.).

127. BARBUS ZANZIBARICUS.

Peters, Mon. Berl. Ac. 1868, p. 601, and Decken's Reise O.-Afr. iii. p. 146 (1869); Vinciguerra, Ann. Mus. Genova, (2) xiii. 1893, p. 454; Pfeff. Thierw. O.-Afr., Fische, p. 58 (1896).

Barbus zanzibaricus, var. *paucior*, Hilgend. Zool. Jahrb., Syst. xxii. 1905, p. 414.

Depth of body $3\frac{1}{3}$ to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout rounded, a little shorter than eye, which is 3 to $3\frac{1}{3}$ times in length of head; interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times in length of head; mouth terminal, $3\frac{1}{2}$ times in length of head; lips thin; two barbels on each side, anterior a little shorter than eye, posterior a little longer. Dorsal III 7–8, equally distant from centre or posterior border of eye and from root of caudal, border straight; last simple ray strong, bony, serrated, shorter than head. Anal III 5 (or 6), not reaching anal. Pectoral about $\frac{2}{3}$ length of head, not reaching ventral; base of latter below anterior half of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales 29–31 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Silvery, brownish on the back; a dark dot at base of caudal.

Total length 97 millim.

East Africa (Mombasa and Masai Districts, and Somaliland).—Type in Berlin Museum.

1–3. Hgr. & yg., types of var. *paucior*.	Lake Ufione, Masai District.	Prof. O. Neumann (C.).

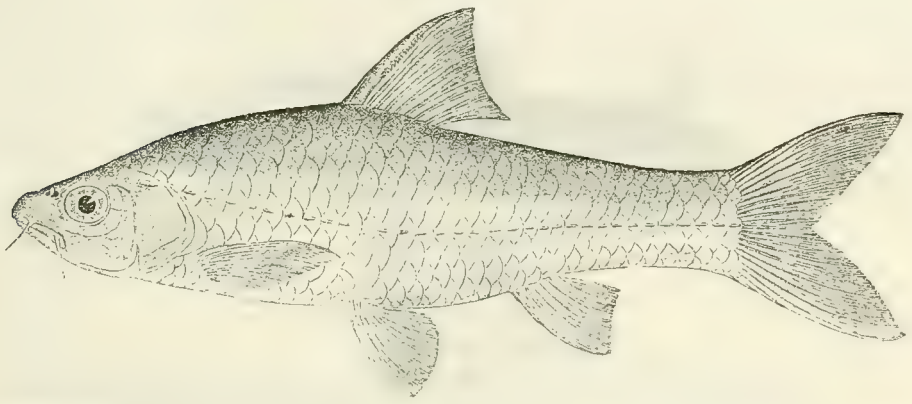
128. BARBUS ARGENTEUS.

Günth. Cat. Fish. vii. p. 103 (1868); Bouleng. Boll. Mus. Torin. xi. 1896, no. 260, p. 2.

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout obtusely pointed, as long as eye, which is $3\frac{1}{2}$ to 4 times in length of head; interorbital width 3 to $3\frac{1}{2}$ times in length of head; mouth subinferior, its width $3\frac{1}{2}$ to 4 times in length of head; lips feebly

developed; barbels two on each side, posterior 1 to $1\frac{1}{2}$ times as long as eye, anterior a little shorter. Dorsal III–IV 8, nearly equally distant from end of snout and from root of caudal, or a little nearer latter, border slightly concave; last simple ray very strong, bony, strongly serrated, the serrated part $\frac{3}{5}$ to $\frac{4}{5}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not quite reaching

Fig. 113.



Barbus argenteus.
Type.

ventral; latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales radiately striated, 29–33 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12–14 round caudal peduncle. Uniform silvery, back brownish.

Total length 110 millim.

Angola; Upper Zambesi.

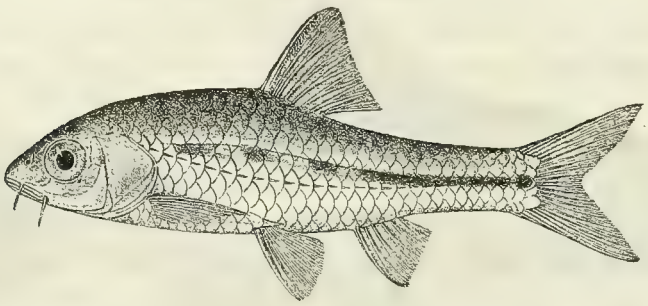
1–4. Types.	Golungo Alto, Loanda.	Dr. Welwitsch (P.).
5. Ad.	Cuculova R., Mossamedes.	Dr. W. J. Ansorge (C.).
6–9. Ad.	Dongwenna Swamps, Mossamedes.	,,
10. Skel.	,, ,, ,,	,,

129. BARBUS WELLMANI, sp. n.

Depth of body equal to length of head, $3\frac{1}{2}$ to 4 times in total length. Snout rounded, as long as eye, which is $3\frac{1}{3}$ to $3\frac{1}{2}$ times in length of head; interorbital width $2\frac{1}{2}$ to 3 times in length of head; mouth subinferior, its width $3\frac{1}{2}$ times in length of head; lips feebly developed; two barbels on each side, subequal, $\frac{2}{3}$ to $\frac{3}{4}$ diameter of eye. Dorsal III 7–8, equally distant from anterior border or centre of eye and from

root of caudal, border slightly concave; last simple ray strong, bony, strongly serrated, the serrated part $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, reaching ventral or not quite so far; base of latter below anterior half of dorsal. Caudal peduncle $1\frac{2}{3}$ to $1\frac{3}{4}$ times as long as deep. Scales 28–30 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Brown

Fig. 114.



Barbus wellmani.
Type.

above; a blackish lateral band, more or less indistinct, or broken up into spots, in front.

Total length 80 millim.

Angola.

1–6. Types. Interior of Benguella, 4000–5000 ft. Dr. F. C. Wellman (P.).

130. BARBUS KESSLERI.

Puntius kessleri, Steind. Verh. zool.-bot. Ges. Wien, xvi. 1866, p. 768, pl. xiv. fig. 3.

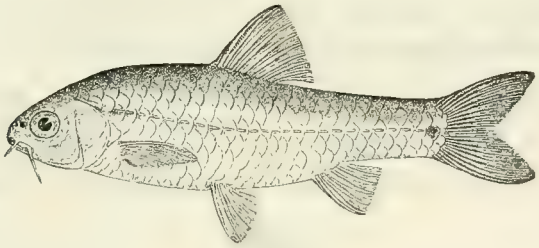
Barbus caudimacula, Günth. Cat. Fish. vii. p. 107 (1868).

Barbus kessleri, Bouleng. Ann. & Mag. N. H. (7) xiv. 1904, p. 218.

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout rounded, a little shorter than or barely as long as eye, which is 3 to $3\frac{1}{3}$ times in length of head; interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times in length of head; mouth subinferior, its width about 3 times in length of head; lips feebly developed; two barbels on each side, anterior nearly as long as eye, posterior $1\frac{1}{3}$ to $1\frac{1}{2}$ diameters of eye. Dorsal III 7–8, equally distant from centre or posterior border of eye and from root of caudal, border straight; last simple ray strong, bony, strongly serrated, the serrated part $\frac{3}{5}$ to $\frac{3}{4}$ length of head. Anal III 5,

not reaching caudal. Pectoral a little shorter than head, reaching ventral or not so far; base of latter below anterior half of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 25–27 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Brown above; a rather indistinct dark lateral band sometimes present; a small round black spot at root of caudal.

Fig. 115.



Barbus kessleri.
Type of *B. caudimacula.*

Total length 65 millim.

Angola.—Type in Vienna Museum.

1–18. Types of *B. caudimacula.*	Golungo Alto.	Dr. Welwitsch (P.).
19–22. Ad.	Pungo Andongo.	Dr. W. J. Ansorge (C.).
23–24. Ad.	Benguella.	Dr. F. C. Wellman (P.).

131. BARBUS HOLOTÆNIA.

Barbus kessleri, part., Günth. Cat. Fish. vii. p. 107 (1868).

Barbus kessleri (non Steind.), Günth. Ann. & Mag. N. H. (6) xvii. 1896, p. 277; Bouleng. Poiss. Bass. Congo, p. 225 (1901).

Barbus holotænia, Bouleng. Ann. & Mag. N. H. (7) xiv. 1904, p. 218.

Barbus camptacanthus, var. *cottesi*, Pellegr. Bull. Mus. Paris, 1907, p. 320.

Depth of body $2\frac{2}{3}$ to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to $4\frac{1}{2}$ times. Snout rounded, as long as or slightly longer than eye, which is 3 (young) to 4 times in length of head; interorbital width $2\frac{1}{3}$ to 3 times in length of head; mouth subinferior, its width 3 to $3\frac{1}{2}$ times in length of head; lips feebly developed; two barbels on each side, anterior about as long as eye, posterior $1\frac{1}{3}$ to $1\frac{2}{3}$ as long as eye. Dorsal III 8 (rarely 9), equally distant from anterior border or centre of eye and from root of caudal, border feebly concave; last simple ray as long as or a little shorter than head, usually rather feebly ossified

and feebly serrated, sometimes stronger and strongly serrated, rarely without a trace of serrature. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, not reaching ventral; base of latter below anterior half of dorsal. Caudal peduncle about $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 22–26 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2–3 between lateral line and ventral, 12 round caudal peduncle. Brownish above, silvery beneath; a straight black band from the end of the snout, through the eye, to the root of caudal; distal half of dorsal black or blackish, or with at least traces of a blackish spot.

Total length 120 millim.

Cameroon to Congo.

Fig. 116.

Barbus holotænia.
Type, from the Ogowe.

1–3. Ad.	Kribi R., S. Cameroon.	G. L. Bates, Esq. (C.).
4. Skel.	,, ,,	,,
5. Ad.	Nyong R., ,,	,,
6. Hgr.	Zima Country, ,,	,,
7–8. Ad.	Ja R., ,,	,,
9–11. Ad. & hgr.	Bumba R. at Assobam, S. Cameroon.	,,
12. Hgr., type.	Benito R.	,,
13–16. Ad.	,,	,,
17. Ad., type.	Eloby, Gaboon.	
18–19. Ad.	Lambarene, Ogowe.	Dr. W. J. Ansorge (C.).
20–21. Hgr., types.	Ogowe.	R. B. N. Walker, Esq. (P.).

22–27. Ad. & hgr., types.	Ogowe.	Miss Kingsley (C.).
28–29. Ad., type.	Sette Cama, Gaboon.	
30–33. Ad., types.	Kaika-N'Zobe, Chiloango.	Major Cabra (C.).
34–35. Ad. & hgr.	Landana, Lower Congo.	Dr. Jackson (C.) ; Hon. W. Rothschild (P.).
36–37. Ad.	Lindi R., Upper Congo.	M. M. Storms (C.).
38. Ad.	Irumu, W. of Ruwenzori (Congo System).	R. B. Woosnam, Esq. (C.); Ruwenzori Expedition.

132. BARBUS MIOLEPIS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 31, pl. ix. fig. 1 (1902).

Depth of body $3\frac{1}{3}$ times in total length, length of head 4 times. Snout rounded, a little shorter than eye, which is 3 times in length of

Fig. 117.

Barbus miolepis.
Type (A. M. C.). $\frac{7}{8}$.

head and equals interorbital width ; mouth small, terminal ; lips moderate ; two barbels on each side, anterior as long as eye, posterior a little longer. Dorsal III 8, equally distant from eye and from root of caudal, border slightly concave ; last simple ray strong, bony, serrated, nearly as long as head. Anal III 5, not reaching caudal. Pectoral nearly as long as head, reaching ventral ; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales radiately serrated, 23 $\frac{4\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Olive above, silvery beneath ; a blackish lateral band from gill-cover to root of caudal.

Total length 70 millim.

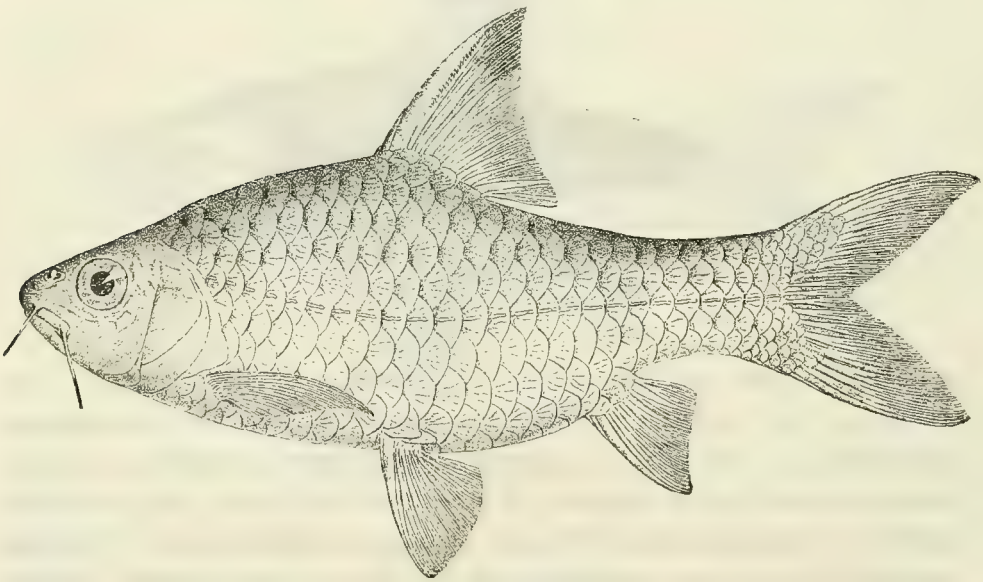
Yembe River at Banzyville, Ubanghi.—Type in Congo Museum, Tervueren.

133. BARBUS GUIRALI.

Thominot, Bull. Soc. Philom. (7) x. 1886, p. 163.

Depth of body $2\frac{1}{2}$ to $2\frac{3}{4}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout rounded, as long as eye, which is 3 to $3\frac{1}{3}$ times in length of head; interorbital width $2\frac{1}{2}$ to 3 times in length of head; mouth subinferior, its width 3 to $3\frac{1}{2}$ times in length of head; lips feebly developed; two barbels on each side, anterior $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as eye, posterior $1\frac{1}{2}$ to 2 times. Dorsal III 8 (exceptionally 9), equally distant from centre or posterior border of eye and from root of caudal, border feebly concave; last simple ray as long as head, strong, bony, more or less strongly serrated. Anal III 5, not reaching caudal. Pectoral as long as head or a little shorter, reaching or nearly reaching

Fig. 118.



Barbus guirali.
S. Cameroon. $\frac{5}{7}$.

ventral; base of latter below anterior half of dorsal. Caudal peduncle as long as deep or slightly longer. Scales radiately striated, 23–26 $\frac{4\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Silvery, back pale brown; tip of dorsal black or blackish.

Total length 155 millim.

Benito River and South Cameroon.—Type in Paris Museum.

1–3. Ad.	Kribi R., S. Cameroon.	G. L. Bates, Esq. (C.).
4. Skel.	„ „	„
5. Hgr.	Nyong R., „	„
6–8. Ad. & hgr.	Ja R., „	„
9. Hgr.	Bumba R. at Assobam, S. Cameroon.	„

134. BARBUS LITAMBA.

Keilhack, Sitzb. Ges. naturf. Fr. Berl. 1908, p. 164.

Depth of body $3\frac{1}{2}$ times in total length, length of head $3\frac{4}{5}$ times. Snout rounded, not longer than eye, which is $4\frac{2}{3}$ times in length of head; interorbital width $2\frac{3}{4}$ times in length of head; mouth inferior, its width $3\frac{1}{2}$ times in length of head; lips feebly developed, restricted to the sides; a single barbel on each side, not $\frac{1}{2}$ diameter of eye. Dorsal III 8, border concave; last simple ray strong, bony, strongly serrated. Anal III 5. Base of ventral in front of dorsal. Scales 40 $\frac{7\frac{1}{2}}{6\frac{1}{2}}$, 4 between lateral line and ventral.

Total length 285 millim.

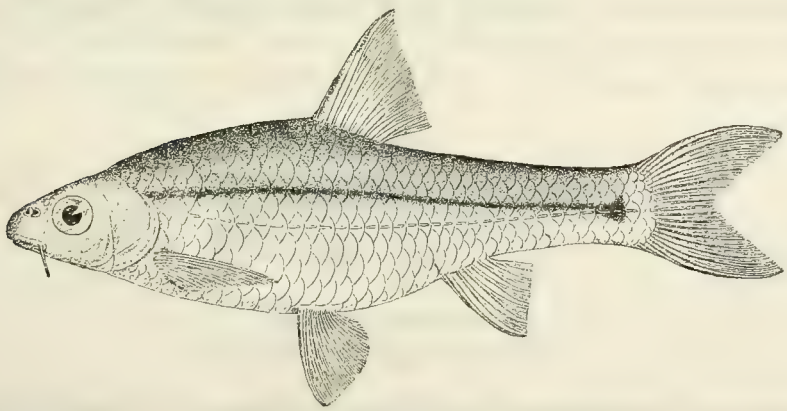
Kiwira River, north end of Lake Nyassa.—Type in Berlin Museum.

135. BARBUS TREVELYANI.

Günth. Ann. & Mag. N. H. (4) xix. 1877, p. 313.

Depth of body $3\frac{1}{4}$ to 4 times in total length, length of head $3\frac{3}{4}$ to

Fig. 119.



Barbus trevelyani.
Type.

4 times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye $3\frac{1}{2}$ to 4 times in length of head, interorbital width $2\frac{1}{3}$ to $2\frac{1}{2}$ times; mouth

small, subinferior; lips moderate; a single barbel on each side, $\frac{2}{3}$ to $\frac{3}{4}$ diameter of eye. Dorsal III 7, equally distant from eye and from caudal, border straight; last simple ray rather strong, bony, finely serrated in its upper part only, the stiff part $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, not reaching ventral; base of latter partly in front of vertical of dorsal. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales radiately striated, 33–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, 3–4 between lateral line and ventral, 14 round caudal peduncle. Brownish above, silvery white beneath; a dark streak on each side, from above the origin of the lateral line to a round black spot at the root of the caudal.

Total length 95 millim.

Buffalo River, Cape Colony.

1–6. Types.	Buffalo R., near King William's Town.	Major H. Trevelyan (P.).
7–9. Ad.	King William's Town.	Dr. J. D. F. Gilchrist (P.).

Barbus kurumani, Casteln. Mém. Poiss. Afr. Austr. p. 59 (1861), from the Kuruman River (Orange River System), is perhaps allied to *B. trevelyani*, as it is described as having a single pair of barbels, a strong spine to the dorsal, large scales, and a black spot at root of caudal. Total length 110 millim.

136. BARBUS APLEUROGRAMMA, sp. n.

Depth of body $3\frac{1}{2}$ times in total length, length of head $3\frac{2}{3}$ times.

Fig. 120.

Barbus apleurogramma.
Type.

Snout rounded, shorter than eye, which is $3\frac{1}{3}$ times in length of head; interorbital width $2\frac{1}{2}$ times in length of head; sides of snout with scars of nuptial tubercles; mouth small, terminal; lips feebly developed; a single barbel on each side, $\frac{1}{2}$ diameter of eye. Dorsal III 7, equally distant from eye and from root of caudal, border straight; last simple

ray very strong, bony, serrated, nearly as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head, not reaching ventral; base of latter anterior to dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 25 in a longitudinal series, 7 between dorsal and ventral, 8 round caudal peduncle; no lateral line. Silvery, brownish on the back, scales edged with dark brown; dorsal blackish, with a whitish cross-band; anal and ventrals blackish, with a large white spot at the base; caudal broadly edged with blackish.

Total length 47 millim.

Lake Victoria.

1. Type, Kisumu Bay, Kavirondo. A. Blayney Percival, Esq. (P.).

137. BARBUS AMPHIGRAMMA.

Bouleng. Ann. & Mag. N. H. (7) xi. 1903, p. 53, pl. v. fig. 4.

Depth of body equal to length of head, $3\frac{2}{3}$ to $3\frac{3}{4}$ times in total length. Snout rounded, as long as eye, which is 4 times in length of head; interorbital width $2\frac{1}{3}$ times in length of head; mouth small, subinferior; lips moderately developed; two barbels on each side, anterior about $\frac{1}{3}$ diameter of eye, posterior $\frac{2}{3}$. Dorsal III 7, a little nearer occiput than base of caudal, border straight; last simple ray not enlarged, not serrated, a little shorter than head. Anal III 5, not reaching caudal. Pectoral nearly $\frac{3}{4}$ length of head, not reaching ventral; first ray of latter a little in advance of origin of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 35–36 $\frac{6\frac{1}{2}}{6\frac{1}{2}}$, 4 between lateral line and ventral, 16 round caudal peduncle. Yellowish, pale olive on the back; a blackish line on the side, independently of the lateral line, which is

Fig. 121.

Barbus amphigramma.
Type (Ann. & Mag. N. H. 1903).

also blackish, the two meeting on the caudal peduncle; a small black spot at the base of the caudal and another at the base of the anal.

Total length 40 millim.

Kilimanjaro, East Africa.

1–3. Types. Nairobi R., 6500 ft. A. Blayney Percival, Esq. (C.).

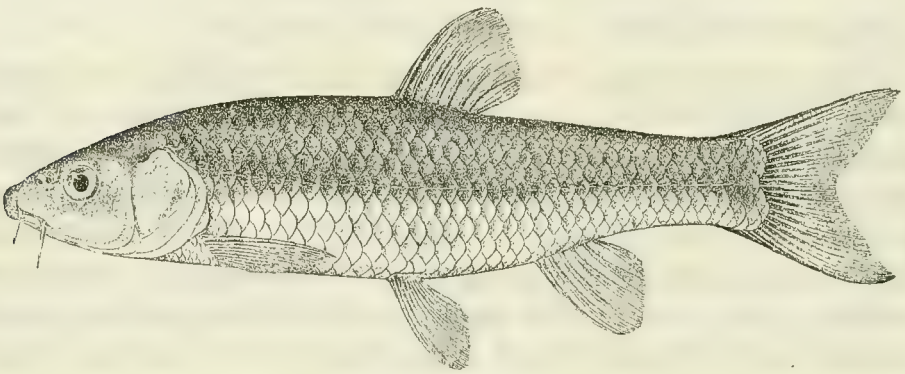
138. BARBUS BURCHELLI.

Barbus (*Pseudobarbus*) *burchelli*, A. Smith, Ill. Zool. S. Afr., Fish. pl. xi. fig. 1 (1840).

Barbus burchelli, M. Weber, Zool. Jahrb., Syst. x. 1897, p. 153.

Depth of body 4 to $4\frac{1}{4}$ times in total length, length of head $3\frac{1}{2}$ times. Snout rounded, $3\frac{1}{2}$ times in length of head; eye 4 to 5 times in length of head; interorbital width $2\frac{2}{3}$ to 3 times; mouth inferior; lips moderate; two barbels on each side, anterior $\frac{2}{3}$ to 1 diameter of eye, posterior 1 to $1\frac{1}{2}$. Dorsal III 7, equally distant from occiput or eye and from caudal, border convex; last simple ray not enlarged, not serrated,

Fig. 122.



Barbus burchelli.
Stellenbosch.

$\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales radiately striated, 34–38 $\frac{5\frac{1}{2}-6\frac{1}{2}}{6\frac{1}{2}}$, 4 between lateral line and ventral, 12 round caudal peduncle. Brown above, whitish beneath, some of the scales darker in the centre; an indistinct dark lateral stripe.

Total length 105 millim.

Cape Colony.

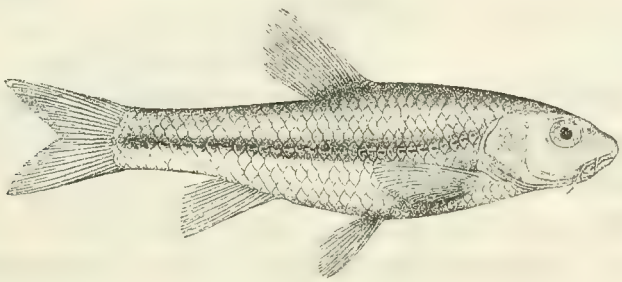
1–3. Ad.	Stellenbosch, Eerste R.	S. African Museum (P.).
4. Yg.	Deelfontein.	Mr. Seimund (C.); Col. Sloggett (P.).

139. BARBUS MOTEBENSIS.

Steind. Sitzb. Ak. Wien, ciii. i. 1894, p. 453, pl. ii. fig. 2.

Depth of body equal to length of head, about $3\frac{1}{2}$ times in total length. Snout rounded, 3 times in length of head; eye $4\frac{1}{3}$ times in length of head, interorbital width 3 times; mouth small, subinferior; two barbels on each side, anterior about $\frac{1}{2}$ as long as posterior, which is a little longer than eye. Dorsal III 7, equally distant from eye and from caudal, border convex; last simple ray not enlarged, not serrated, nearly as long as head. Anal III 5, not reaching caudal. Pectoral nearly as long as head, reaching ventral; latter originating a little in advance of

Fig. 123.



Barbus motebensis.
Type, after Steindachner (*l. c.*).

dorsal. Caudal peduncle nearly twice as long as deep. Scales radiately striated, 32–33 $\frac{5\frac{1}{2}}{6\frac{1}{2}}$, 4–$4\frac{1}{2}$ between lateral line and ventral. A dark lateral streak from above lateral line to root of caudal; a dark spot at base of dorsal.

Total length 90 millim.

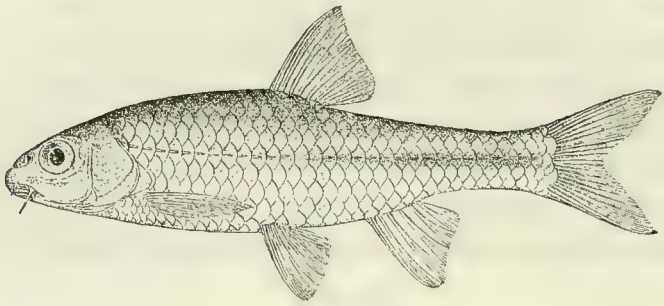
Motebe River, Upper Notuany River, Marico District, Western Transvaal.

140. BARBUS BURGI, sp. n.

Depth of body equal to or a little greater than length of head, $3\frac{1}{2}$ to 4 times in total length. Snout rounded, as long as eye, which is $3\frac{1}{2}$ times in length of head; interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times in length of head; mouth small, inferior; lips moderate; two barbels on each side, anterior about $\frac{1}{3}$ length of posterior, which is $\frac{3}{4}$ diameter of eye. Dorsal III 7, equally distant from eye and from caudal, border nearly straight; last simple ray not enlarged, not serrated, a little shorter than head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, reaching or nearly reaching ventral; base of latter below anterior

rays of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 30–32 $\frac{4\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal

Fig. 124.



Barbus burgi.
Type.

peduncle. Brown above, whitish beneath, with a rather indistinct dark lateral band on the posterior half of the body; fins whitish.

Total length 85 millim.

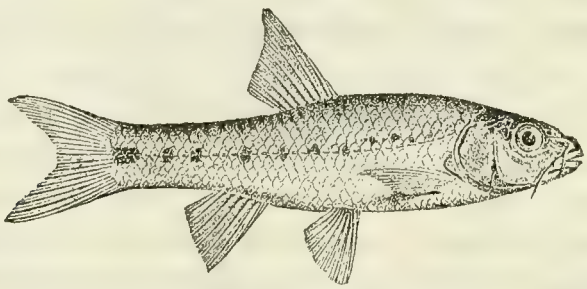
Cape Colony.

1–3. Types. Burg R., Paarl Division. S. African Museum (P.).

141. BARBUS VULNERATUS.

? *Barbus gobionides*, Cuv. & Val. Hist. Poiss. xvi. p. 189 (1842).
Gnathendalia vulnerata, Casteln. Mém. Poiss. Afr. Austr. p. 57 (1861).
Barbus multimaculatus, Steind. Sitzb. Ak. Wien, lxi. i. 1870, p. 633, pl. iii. fig. 2.
Barbus vulneratus, Bouleng. Ann. & Mag. N. H. (7) xvi. 1905, p. 45.

Fig. 125.



Barbus vulneratus.
Type of *B. multimaculatus*, after Steindachner (*l. c.*).

Depth of body nearly equal to length of head, $3\frac{1}{2}$ to 4 times in total length. Snout rounded, as long as or a little longer than eye, which is $3\frac{1}{3}$ to $3\frac{1}{2}$ times in length of head; interorbital width about 3 times in

length of head; mouth small, inferior; lips moderate; two barbels on each side, posterior longer than anterior and as long as or a little longer than eye. Dorsal III 7, equally distant from occiput and from caudal, border straight; last simple ray not enlarged, not serrated, a little shorter than head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter wholly or partly anterior to dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales radiately striated, 30–36 $\frac{4\frac{1}{2}-5\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, $3\frac{1}{2}$–$4\frac{1}{2}$ between lateral line and ventral, 12–14 round caudal peduncle. Brown above, whitish beneath, usually with a lateral series of round black spots.

Total length 70 millim.

Cape Colony.

1–2. Ad.	Zonder Eende R. (trib. of Forcade R.) near Ondtsloon.	Dr. J. D. F. Gilchrist (P.).
3. Hgr.	Baakens R. near Port Elizabeth.	O. West, Esq. (P.).

Barbus (*Pseudobarbus*) *pallidus*, A. Smith, Ill. Zool. S. Afr., Fish. pl. xi. fig. 2 (1840), from "clear streams in various parts of Cape Colony," may be based in part on the preceding fish, but the figure cannot be identified with it, and the description is very unsatisfactory. The figure represents a *Barbus* 65 millim. long, with the depth of the body $3\frac{1}{2}$ times in the total length, the length of the head 4 times; eye 3 times in length of head; barbels very short. Dorsal with 7 soft rays, equally distant from anterior border of eye and from caudal, its origin corresponding to that of the ventral. From the figure the scale-formula would be 30 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3, 12. Uniform greenish-brown above, white beneath.

142. BARBUS USAMBARÆ.

Lönnb. Kilim.-Meru Exped., Fish. p. 5 (1907).

Depth of body $3\frac{3}{4}$ times in total length, length of head 4 times. Snout much shorter than eye, which is about $3\frac{1}{2}$ times in length of head; interorbital width about $2\frac{1}{2}$ times in length of head; two barbels on each side, posterior longer, about as long as eye. Dorsal III 7, border straight; last simple ray not enlarged, not serrated, a little shorter than head. Anal III 5. Pectoral not reaching ventral; base of latter anterior to origin of dorsal. Caudal peduncle nearly twice as long as deep. Scales 30 $\frac{5\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and ventral. Silvery, with a

somewhat darker lateral streak, a black spot at the root of the caudal, and a cloudy spot at the base of the anal.

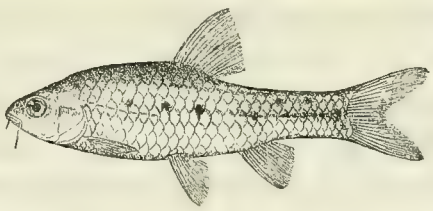
Total length 44 millim.

Tanga, opposite Pemba Island, coast of German East Africa.—Type in Stockholm Museum.

143. BARBUS HEMIPLEUROGRAMMA, sp. n.

Depth of body equal to length of head, $3\frac{1}{2}$ times in total length. Snout rounded, as long as eye, which is $3\frac{1}{2}$ times in length of head; interorbital width $2\frac{1}{2}$ times in length of head; mouth small, terminal or subinferior; lips feebly developed; two barbels on each side, anterior $\frac{3}{5}$ to $\frac{2}{3}$ length of eye, posterior 1 to $1\frac{1}{3}$ times. Dorsal III 7, border

Fig. 126.



Barbus hemipleurogramma.
Type.

straight, equally distant from eye and from caudal; last simple ray not enlarged, flexible, a little shorter than head. Anal II 5, not reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales radiately striated, 27–29 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle; lateral line incomplete, extending on the anterior 8 to 15 scales only. Brownish above, whitish beneath; usually a few round blackish spots forming a regular series along each side.

Total length 50 millim.

Cape Colony.

1–4. Ad. Baakens R. near Port Elizabeth. Dr. J. D. F. Gilchrist (P.).

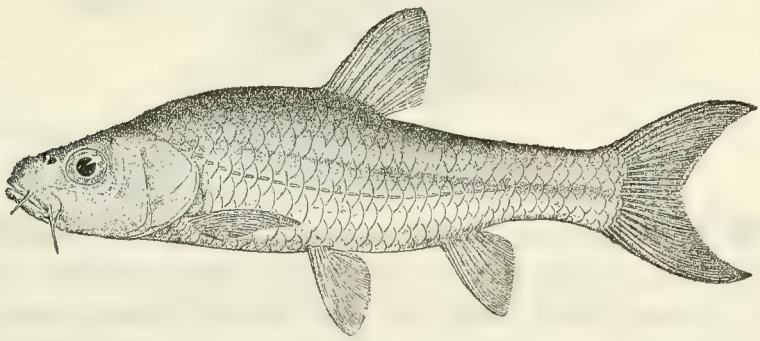
144. BARBUS GURNEYI.

Günth. Cat. Fish. vii. p. 102 (1868), part.; Bouleng. Ann. & Mag. N. H. (7) ix. 1902, p. 288.

Depth of body equal to or a little less than length of head, $3\frac{2}{5}$ to $3\frac{1}{2}$

times in total length. Snout rounded, $3\frac{1}{3}$ to $3\frac{1}{2}$ times in length of head; eye $3\frac{1}{2}$ (young) to 5 times in length of head, interorbital width 3 to $3\frac{1}{3}$ times; mouth terminal; lips moderate; two barbels on each side, anterior $\frac{2}{3}$ to $\frac{3}{4}$ diameter of eye, posterior 1 to $1\frac{1}{2}$ diameters. Dorsal III 7, equally distant from eye and from caudal, border slightly convex; last simple ray not enlarged, not serrated, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{5}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales radiately striated, 31–35 $\frac{5\frac{1}{2}}{3\frac{1}{2}-4\frac{1}{2}}$, $1\frac{1}{2}$–$2\frac{1}{2}$

Fig. 127.



Barbus gurneyi.
Type.

between lateral line and ventral, 12 round caudal peduncle. Brownish above, silvery beneath; a rather indistinct dark streak from above origin of lateral line to root of caudal, where it may end in a small black spot.

Total length 100 millim.

Natal and Zululand.

1–8. Types.	Durban.	Mr. T. Ayres (C.).
9–16. Hgr. & yg.	M. Fougosi R. (trib. of Tugela), Zululand.	W. E. Toues, Esq. (P.).
17–26. Hgr. & yg.	Umfulosi, Zululand.	Mr. C. Grant (C.); C. D. Rudd, Esq. (P.).

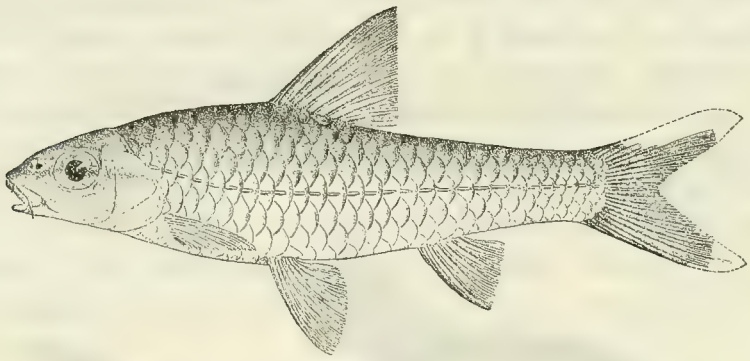
145. BARBUS BANGUELENSIS.

Boulenger, Ann. & Mag. N. H. (7) xvi. 1905, p. 643.

Depth of body equal to length of head, 4 times in total length. Snout rounded, equal to diameter of eye and to interorbital width, $3\frac{2}{3}$ times in length of head; mouth small, subinferior; lips thin; two barbels on each side, barely $\frac{1}{3}$ diameter of eye. Dorsal IV 7, equally distant from end of snout and from root of caudal; last simple ray not enlarged, not

serrated, a little shorter than head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle twice as long as deep.

Fig. 128.



Barbus banguelensis.
Type.

Scales 28 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Silvery, brownish on the back, posterior border of scales blackish; a black streak along the side of head, passing through the eye; fins greyish.

Total length 90 millim.

Lake Bangwelu.

1. Type. L. Bangwelu. F. H. Melland, Esq. (P.).

146. BARBUS INERMIS.

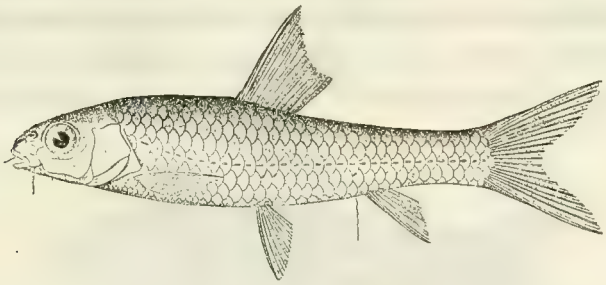
Barbus (*Dangila*) *inermis*, Peters, Mon. Berl. Ac. 1852, p. 683.

Barbus inermis, Günth. Cat. Fish. vii. p. 103 (1868); Peters, Reise Mossamb. iv. p. 54, pl. xi. fig. 3 (1868); Bouleng. Proc. Zool. Soc. 1907, p. 310.

Depth of body nearly equal to length of head, $3\frac{1}{2}$ to 4 times in total length. Snout rounded, as long as or a little longer than eye, which is $3\frac{1}{2}$ to $3\frac{2}{3}$ times in length of head; interorbital width $2\frac{2}{3}$ to 3 times in length of head; mouth small, subinferior; lips moderate; two barbels on each side, posterior longer than anterior and $\frac{1}{2}$ to $\frac{2}{3}$ diameter of eye. Dorsal IV 8–9, equally distant from eye or snout and from caudal, border concave; last simple ray not enlarged, not serrated, nearly as long as head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales with numerous

feebly radiating striæ *, 29–31 $\frac{4\frac{1}{2}-5\frac{1}{2}}{5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Dark green or olive above, yellowish beneath; fins pale green.

Fig. 129.



Barbus inermis.
Type, after Peters (Reise Mossamb.).

Total length 100 millim.

Lower Zambesi and Limpopo Systems.

1–3. Ad. & hgr. Groot Olifant R., Transvaal. Major G. E. Bruce (P.).

147. BARBUS QUADRIPUNCTATUS.

Barbus trimaculatus (non Peters), Pfeff. Jahrb. Hamb. Wiss. Anst. x. 2, 1893, p. 37.
Barbus quadripunctatus, Pfeff. Thierw. O.-Afr., Fische, p. 64 (1896).

Depth of body equal to length of head, $3\frac{1}{2}$ times in total length. Snout rounded, shorter than eye, which is $2\frac{2}{3}$ times in length of head (young?); interorbital width $2\frac{1}{2}$ times in length of head; mouth small, inferior; lips moderate; two barbels on each side, anterior a little shorter than posterior, which measures about $\frac{1}{2}$ diameter of eye. Dorsal III 8, equally distant from eye and from caudal, border slightly concave; last simple ray not enlarged, not serrated, a little shorter than head. Anal II 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle nearly twice as long as deep. Scales radiately striated, 27–30 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Silvery, back brownish; three or four small round blackish spots on each side, the last at base of caudal.

Total length 35 millim.

Rufu River (Kingani), German East Africa.—Types (probably young), in Hamburg Museum, examined.

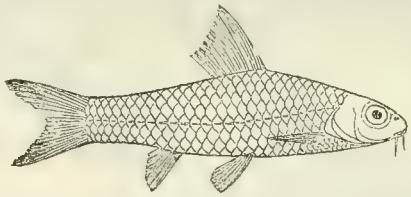
* In this respect the scales of this species may be said to establish a link between the two divisions of the genus adopted in the present arrangement.

148. BARBUS NIGERIENSIS.

Bouleng. Proc. Zool. Soc. 1902, ii. p. 327, pl. xxviii. fig. 3.

Depth of body equal to length of head, 4 times in total length. Snout rounded, a little shorter than eye, which is $2\frac{2}{3}$ to $3\frac{1}{4}$ times in length of head; interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times in length of head; mouth small, subinferior; lips moderate; two barbels on each side, anterior a

Fig. 130.



Barbus nigeriensis.
Type.

little shorter than posterior, which equals diameter of eye. Dorsal III 8, equally distant from centre or anterior border of eye and from caudal, border slightly concave; last simple ray not enlarged, not serrated, as long as or a little shorter than head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 25–29 $\frac{3\frac{1}{2}-4\frac{1}{2}}{3\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Silvery, pale brownish on the back, with a more or less distinct darker lateral streak, which may be broken up into small spots; fins whitish.

Total length 60 millim.

Lower Niger, Cameroon.

1. Type.	Agberi, Lower Niger.	Dr. W. J. Ansorge (C.).
2. Ad.	Oyan R., „ „	A. E. Kitson, Esq. (P.).
3–10. Ad. & hgr.	Ja R. (Congo System), S. Cameroon.	G. L. Bates, Esq. (C.).

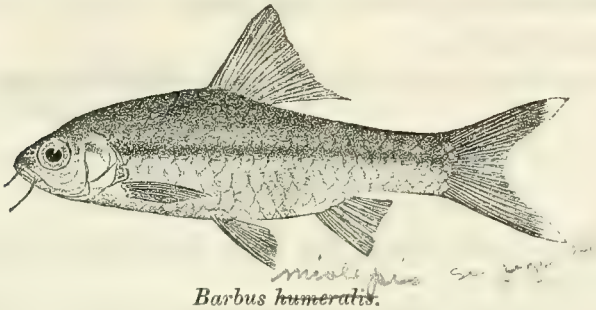
149. BARBUS HUMERALIS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 33, pl. ix. fig. 3 (1902).

Depth of body equal to length of head, 4 times in total length. Snout rounded, nearly as long as eye, which is 3 times in length of head; interorbital width $2\frac{2}{3}$ times in length of head; mouth small, inferior;

lips thin; two barbels on each side, nearly equal, as long as eye. Dorsal III 8, equally distant from centre of eye and from caudal, border straight; last simple ray not enlarged, not serrated, a little shorter than head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below middle of dorsal.

Fig. 131.



Barbus humeralis.
Type (A. M. C.).

Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales radiately striated, 25–26 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral, 10 round caudal peduncle. Yellowish, each scale of the upper parts blackish at the base; a black vertical bar behind the gill-opening; fins white.

Total length 65 millim.

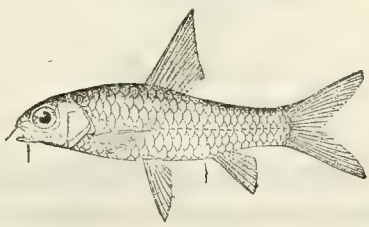
Ubanghi.—Type in Congo Museum, Tervueren.

1. One of the types. Yembe R. at Banzyville. Capt. Royaux (C.).

150. BARBUS RADIATUS.

Peters, Mon. Berl. Ac. 1853, p. 783, and Reise Mossamb. iv. p. 56, pl. x. fig. 3 (1868).

Fig. 132.



Barbus radiatus.
Type, after Peters (Reise Mossamb.).

Depth of body equal to length of head, $3\frac{2}{3}$ times in total length. Snout rounded, shorter than eye, which is 3 times in length of head and equals interorbital width; mouth inferior; two barbels on each side,

posterior a little longer than anterior and about $\frac{2}{3}$ diameter of eye. Dorsal III 8, equally distant from eye and from caudal, border straight; last simple ray not enlarged, not serrated, as long as head. Anal III 5, not reaching caudal. Pectoral little shorter than head, reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle about $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 26–27 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral. Silvery, back green.

Total length 48 millim.

Revugo River, Lower Zambesi.—Type in Berlin Museum.

151. BARBUS ABLABES.

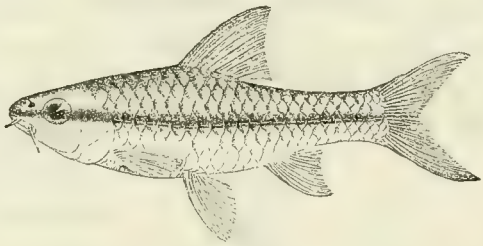
Puntius (Barbodes) ablabes, Bleek. Nat. Verh. Vet. Haarlem, xviii. 1863, no. 2, p. 114, pl. xxiii. fig. 1.

Enteromius potamogalis, Cope, Trans. Amer. Philos. Soc. (2) xiii. 1867, p. 407.

Barbus ablabes, Steind. Notes Leyd. Mus. xvi. 1894, p. 79; Bouleng. Ann. & Mag. N. H. (7) xviii. 1906, p. 33.

Depth of body $2\frac{3}{4}$ to 3 times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout rounded, as long as eye, 3 or $3\frac{2}{3}$ times in length of head, interorbital width $2\frac{3}{4}$ or 3 times; mouth inferior; lips moderately developed; two barbels on each side, posterior $\frac{2}{3}$ to 1 diameter of eye

Fig. 133.



Barbus ablabes.
Kotchwah R.

and twice as long as anterior. Dorsal III 8, equally distant from centre of eye and from caudal, border feebly concave; last simple ray not enlarged, as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, reaching or nearly reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 22–25 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Brownish above, whitish beneath,

the dorsal scales darker at the base; a black straight lateral band, from the end of the snout, through the eye, to the base of the caudal; fins white, dorsal greyish in front.

Total length 85 millim.

Liberia, Gold Coast, Old Calabar.—Type in Leyden Museum.

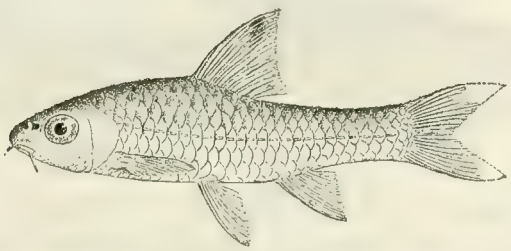
1–10. Ad. & hgr.	Kotchwah R., Gold Coast.	R. B. N. Walker, Esq. (P.).
11–17. Hgr. & yg.	Infoan, Gold Coast.	R. B. N. Walker, Esq. (C.); Dr. A. Günther (P.).
18–21. Hgr.	Akropong, „	„
22–25. Ad. & hgr.	Atesu R., „	„
26. Ad.	Ataiyo R. (Old Calabar) at Oban, S. Nigeria, 500 ft.	P. A. Talbot, Esq. (P.).

152. BARBUS DESERTI.

Pellegr. Bull. Mus. Paris, 1909, p. 239.

Depth of body equal to or a little less than length of head, $3\frac{1}{2}$ to 4 times in total length. Snout rounded, 3 to $3\frac{1}{4}$ times in length of head, equal to interorbital width; eye $3\frac{1}{4}$ to $3\frac{1}{2}$ times in length of head; mouth small, subinferior; lips feebly developed; two barbels on each

Fig. 134.



Barbus deserti.
Type. $\times 1\frac{1}{2}$.

side, anterior about $\frac{1}{3}$ diameter of eye, posterior $\frac{3}{5}$ to $\frac{3}{4}$. Dorsal III 8, equally distant from centre of eye and from root of caudal, border slightly concave; last simple ray not enlarged, flexible, as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, reaching or nearly reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle about $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 23–25 $\frac{3\frac{1}{2}}{3\frac{1}{4}}$, 2 between lateral line and ventral, 10–12

round caudal peduncle. Yellowish, back darker; a blackish spot near the tip of the dorsal.

Total length 60 millim.

Algerian Sahara.—Types in Paris Museum.

1. One of the types.	Pool of Ifedil.	Capt. Cortier (C.); Paris Museum (E.).

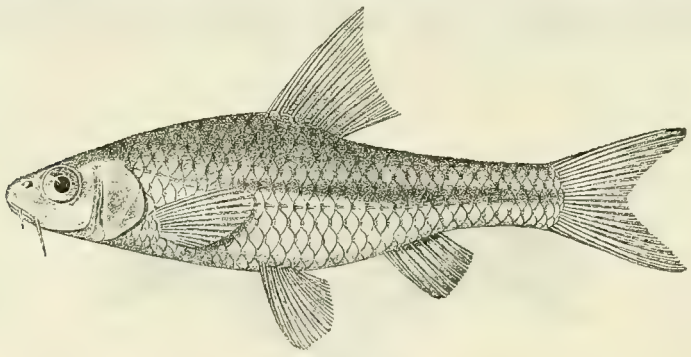
153. BARBUS UNITÆNIATUS.

Puntius vittatus (non Day), Steind. Verh. zool.-bot. Ges. Wien, xvi. 1866, p. 767, pl. xvii. fig. 2.

Barbus unitæniatus, Günth. Zool. Rec. 1866, p. 151, and Cat. Fish. vii. p. 103 (1868); M. Weber, Zool. Jahrb., Syst. x. 1897, p. 151.

Depth of body 3 to $3\frac{2}{3}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout rounded, as long as or shorter than eye, which is 3 to $3\frac{1}{3}$ times in length of head; interorbital width 3 times in length of head; mouth small, subinferior; lips moderate; two barbels on each side, posterior longer than anterior and as long as or a little longer than eye.

Fig. 135.



Barbus unitæniatus.
Type, after Steindachner (*l. c.*).

Dorsal III 8, equally distant from snout or eye and from caudal, border straight or slightly concave; last simple ray not enlarged, not serrated, nearly as long as head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales radiately striated, 30–33 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Brown above, yellowish beneath, with a more or less distinct dark lateral band which may end in a round

black spot at the base of the caudal; a lateral series of small black dots may be present.

Total length 70 millim.

Angola, Transvaal, Zululand, Natal.—Type in Vienna Museum.

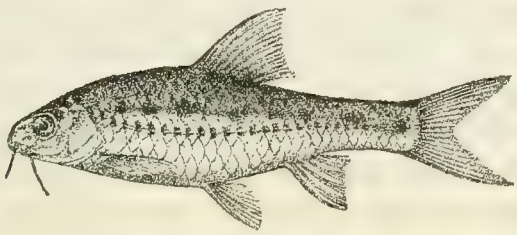
1–5. Hgr. & yg.	Bange Ngola, Angola.	Dr. W. J. Ansorge (C.).
6. Ad.	Elchelelilwami, Zululand.	Dr. E. Warren (P.).
7–13. Hgr. & yg.	Durban, Natal.	Col. Bowker (P.).

154. BARBUS LINEOMACULATUS.

Bouleng. Ann. & Mag. N. H. (7) xi. 1903, p. 53, pl. v. fig. 3; Hilgend. Zool. Jahrb., Syst. xxii. 1905, p. 415.

Depth of body $3\frac{2}{3}$ to 4 times in total length, length of head 4 times. Snout rounded, as long as eye, which is $3\frac{2}{3}$ to 4 times in length of head; interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times in length of head; mouth small, subinferior; lips moderately developed; two barbels on each side, anterior $1\frac{1}{3}$ to $1\frac{1}{2}$ diameters of eye, posterior $1\frac{1}{2}$ to 2. Dorsal III 8, nearer occiput than base of caudal, border feebly concave; last simple ray not enlarged, not serrated, as long as head. Anal III 5, not reaching

Fig. 136.



Barbus lineomaculatus.
Type (Ann. & Mag. N. H. 1903).

caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 30–32 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Silvery, brownish on the back, some of the scales dark brown at the base; a series of 4 to 7 black spots on each side, connected by a dark lateral streak; all but the last spot above the lateral line.

Total length 67 millim.

Lumi River, east side of Kilimanjaro, flowing into Lake Jipi, and Bubu River, Masailand, East Africa.

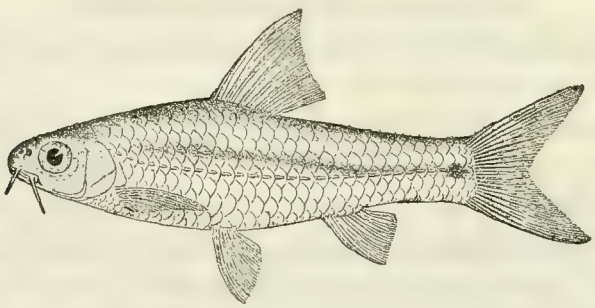
1–2. Types.	Lumi R.	A. Blayney Percival, Esq. (C.).
3–4 Ad. & yg.	Bubu R. near Irangi.	Prof. O. Neumann (C.).

155. BARBUS INNOCENS.

Pfeff. Thierw. O.-Afr., Fische, p. 66 (1896); Hilgend. & Pappenh. Sitzb. Ges. naturf. Fr. Berl. 1903, p. 270.

Depth of body equal or nearly equal to length of head, 4 to $4\frac{1}{4}$ times in total length. Snout rounded, shorter than eye, which is 3 to $3\frac{1}{2}$ times in length of head; interorbital width $2\frac{2}{3}$ to 3 times in length of

Fig. 137.



Barbus innocens.
L. Nyassa.

head; mouth small, inferior; lips feebly developed; two barbels on each side, anterior a little shorter than posterior, which measures 1 to $1\frac{1}{4}$ diameters of eye. Dorsal III 8, equally distant from anterior border of eye and from caudal, border feebly concave; last simple ray not enlarged, not serrated, as long as head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 29–33 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Silvery, with a more or less distinct darker lateral streak, which often ends in a round blackish spot at the base of the caudal fin.

Total length 80 millim.

Wami and Mkata Rivers, German East Africa; Lake Nyassa; Lake Rukwa.—Types, in Hamburg Museum, examined.

1–3. Ad.	Between Kondowe and Karonga, L. Nyassa.	Sir H. H. Johnston (P.).
4–11. Ad.	Mkata R., German E. Africa.	Dr. E. J. Baxter (P.).

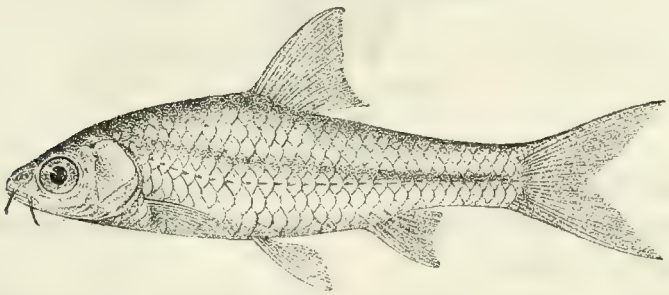
156. BARBUS HUMILIS.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 436, and Fish. Nile, p. 250, pl. xlvii. fig. 4 (1907).

Depth of body $3\frac{1}{3}$ to $3\frac{3}{4}$ times in total length, length of head $3\frac{2}{3}$ to

4 times. Snout rounded, shorter than eye, which is 3 to $3\frac{1}{2}$ times in length of head; interorbital width $2\frac{1}{2}$ to $2\frac{2}{3}$ times in length of head; mouth small, terminal; lips feebly developed; two barbels on each side, anterior about $\frac{1}{2}$ or $\frac{3}{5}$ diameter of eye, posterior $\frac{2}{3}$ to $\frac{3}{4}$. Dorsal III 8, equally distant from anterior border of eye and from caudal, border feebly concave; last simple ray not enlarged, not serrated, nearly as long as the head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length

Fig. 138.



Barbus humilis.
Type (F. N.). $\frac{7}{8}$.

of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle nearly twice as long as deep. Scales radiately striated, 29–31 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12–14 round caudal peduncle. Silvery, brownish on the back; an indistinct darker lateral band; fins whitish.

Total length 56 millim.

Lake Tsana, Abyssinia.

1–10. Types. Bahardar. Mr. E. Degen (C.).

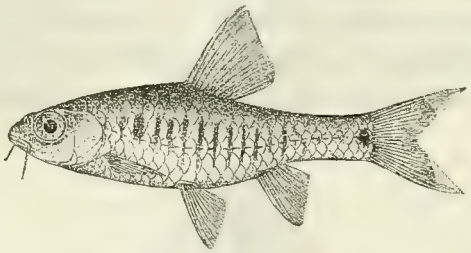
157. BARBUS FASCIOLATUS.

Günth. Cat. Fish. vii. p. 108 (1868).

Depth of body $3\frac{1}{3}$ times in total length, length of head $3\frac{3}{4}$ times. Snout rounded, shorter than eye, which is 3 times in length of head and equals interorbital width; mouth small, subinferior; lips feebly developed; two barbels on each side, anterior a little shorter than eye, posterior a little longer than eye. Dorsal III 8, equally distant from eye and from caudal, border scarcely concave; last simple ray not enlarged, not serrated, as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle twice as long as deep.

Scales radiately striated, 25 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Side with 12 or 13 blackish-blue vertical

Fig. 139.



Barbus fasciolatus.
Type.

streaks, which do not extend to either the back or the belly; a round blackish spot at the base of the caudal fin; base of anal fin bluish black.

Total length 50 millim.

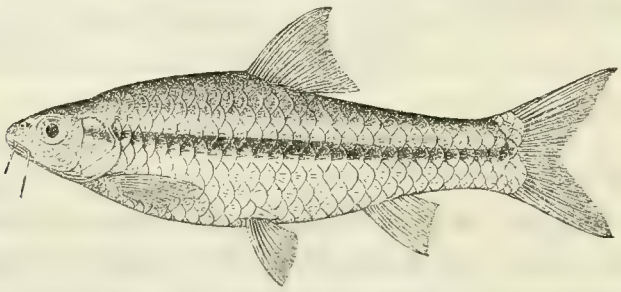
Angola.

1. Type. Fluilla. Dr. Welwitsch (P.).

158. BARBUS CHLOROTÆNIA, sp. n.

Depth of body $3\frac{1}{4}$ to $3\frac{1}{2}$ times in total length, length of head 4 to $4\frac{1}{4}$ times. Snout rounded, as long as or a little shorter than eye, which is $3\frac{1}{3}$ to $3\frac{1}{2}$ times in length of head; interorbital width $2\frac{1}{3}$ to $2\frac{1}{2}$ times in

Fig. 140.



Barbus chlorotænia.
Type.

length of head; mouth inferior, small; lips moderate; two barbels on each side, anterior a little shorter than posterior, which measures $1\frac{1}{2}$ to $1\frac{2}{3}$ diameters of eye. Dorsal III 8, equally distant from centre of eye and from caudal, border concave; last simple ray not at all enlarged, not

serrated, as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{4}{5}$ to $\frac{5}{6}$ length of head, not reaching ventral; latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 28–30 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Silvery, pale olive-green on the back; a dark green (black in spirit) lateral stripe from gill-cover to root of caudal, above the lateral line on the præcaudal part of body; fins colourless.

Total length 75 millim.

Lagos.

1–6. Types. Odo Omi, head-water of Omi River, Lagos. Major G. E. Bruce (P.).

159. BARBUS TRISPILUS.

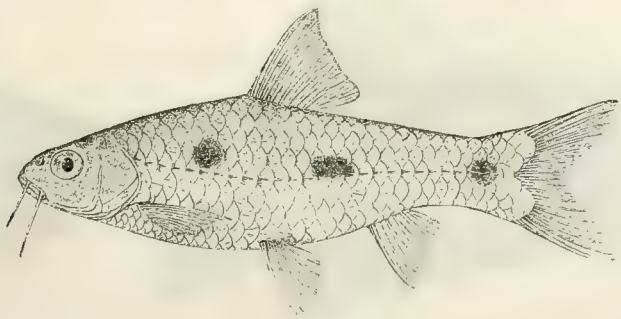
Puntius (Barbodes) trispilos, Bleek. Nat. Verh. Vet. Haarlem, xviii. 1863, no. 2, p. 113, pl. xxiii. fig. 3.

Barbus trispilus, Günth. Cat. Fish. vii. p. 108 (1868), and Proc. Zool. Soc. 1899, p. 730; Boulenq. Ann. & Mag. N. H. (7) xviii. 1906, p. 33.

Barbus camptacanthus, var. *liberiensis*, Steind. Notes Leyd. Mus. xvi. 1894, p. 80.

Depth of body 3 to $3\frac{2}{3}$ times in total length, length of head $3\frac{2}{3}$ to 4 times. Snout rounded, not longer than eye, which is $3\frac{1}{3}$ to $3\frac{1}{2}$ times in length of head; interorbital width $2\frac{1}{3}$ to $2\frac{1}{2}$ times in length of head; mouth terminal, small; lips moderate; two barbels on each side, anterior $1\frac{1}{2}$, posterior 2 diameters of eye. Dorsal III 8, nearer occiput

Fig. 141.



Barbus trispilus.
Kotchwah R.

than caudal, border straight or very slightly concave; last simple ray not enlarged, not serrated, as long as or slightly shorter than head. Anal III 5, not reaching caudal. Pectoral $\frac{4}{5}$ or $\frac{5}{6}$ length of head, not reaching ventral; latter below anterior rays of dorsal. Caudal peduncle

$1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 25–28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 10–12 round caudal peduncle. Back brownish, sides and belly silvery, the scales of the lateral line and sometimes the series above it with a dark bar at the base; three round or oval black spots on each side, the first anterior to the vertical of the base of the dorsal fin and above the lateral line, the second just behind the vertical of the dorsal fin and bordered below by the lateral line, the third at the base of the caudal fin and traversed by the lateral line; fins white, without spots.

Total length 70 millim.

Gold Coast; Liberia.—Types in Leyden Museum.

1. Ad.	Kotchwah R., Gold Coast.		R. B. N. Walker, Esq. (P.).
2–9. Ad. & hgr.	Akropon,	„	R. B. N. Walker, Esq. (C.); Dr. A. Günther (P.).
10–17. Ad. & hgr.	Infoan,	„	„

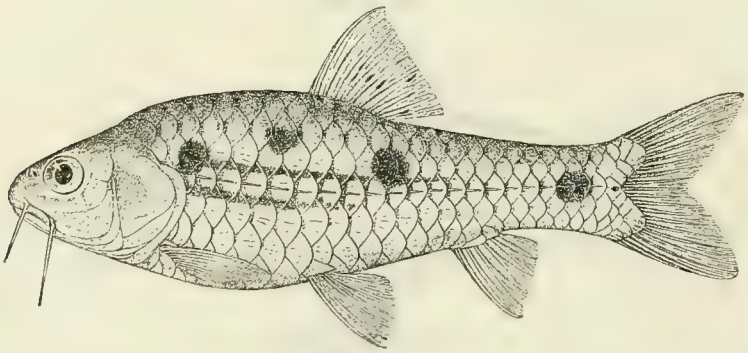
160. BARBUS WALKERI.

Bouleng. Ann. & Mag. N. H. (7) xiv. 1904, p. 16.

? *Puntius* (*Barbodes*) *camptacanthus* (non Bleek.), Sauv. Bull. Soc. Zool. France, 1882, p. 322.

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout rounded, slightly projecting beyond mouth, not longer than eye; eye 4 times in length of head, interorbital width $2\frac{1}{3}$ to $2\frac{1}{2}$

Fig. 142.



Barbus walkeri.
Type.

times, width of mouth about 3 times; lips moderately developed, interrupted on the chin; two barbels on each side, anterior $1\frac{1}{2}$ to $1\frac{2}{3}$, posterior 2 diameters of eye. Dorsal III 8, a little nearer occiput than caudal, border straight; last simple ray flexible, not enlarged, not

serrated, $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral about $\frac{2}{3}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{3}{4}$ times as long as deep. Scales radiately striated, 21–22 $\frac{3\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Brown on the back, yellowish on the sides and below, the lateral scales brown at the base; two longitudinal dark brown streaks embracing the 8 to 10 first scales of the lateral line; four round black spots on each side, the second higher up than the others, just in front of the vertical of the origin of the dorsal fin, the third below the last rays of the dorsal fin and above the lateral line, the fourth in front of the base of the caudal fin and traversed by the lateral line; a more or less distinct dark spot on each side of the vent; fins white, a few small black spots on the dorsal.

Total length 100 millim.

Gold Coast.

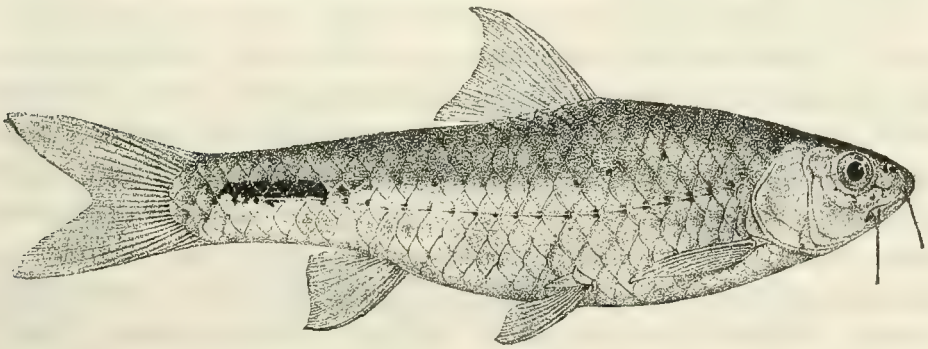
1–8. Types.	Ingogosu.	R. B. N. Walker, Esq. (C.); Dr. A. Günther (P.).

161. BARBUS TÆNIURUS.

Bouleng. Proc. Zool. Soc. 1903, i. p. 24, pl. ii. fig. 2, and Ann. & Mag. N. H. (7) xviii. 1906, p. 35.

Depth of body $3\frac{1}{3}$ to $3\frac{1}{2}$ times in total length, length of head $3\frac{3}{4}$ to

Fig. 143.



Barbus tæniurus.
Type (P. Z. S. 1903).

4 times. Snout rounded, $3\frac{1}{2}$ to 4 times in length of head; eye 4 to $4\frac{1}{2}$ times in length of head, interorbital width $2\frac{1}{3}$ to $2\frac{1}{2}$ times; mouth inferior; lips moderate; two barbels on each side, anterior $1\frac{1}{2}$ to $1\frac{3}{4}$, posterior longer, $1\frac{2}{3}$ to 2 diameters of eye. Small nuptial pearl-like

tubercles on side of head. Dorsal III 8, equally distant from end of snout or anterior border of eye and from caudal, border concave; last simple ray ossified and moderately strong, but much thicker than the first branched ray, not serrated, as long as or a little shorter than head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{5}{6}$ length of head, not reaching ventral; base of latter a little posterior to origin of dorsal. Caudal peduncle $1\frac{1}{2}$ to 2 times as long as deep. Scales radiately striated, 24–27 $\frac{3\frac{1}{2}-4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Olive-brown above (in spirit), yellow on the sides and below; a series of black dots on the lateral line, and a black band on each side of the caudal peduncle; fins white.

Total length 120 millim.

South Cameroon.

1, 2–4. Types.	Kribi R.	G. L. Bates, Esq. (C.).
5–8. Ad. & hgr.	„	„

162. BARBUS CAMPTACANTHUS.

Puntius (Barbodes) camptacanthus, Bleek. Nat. Verh. Vet. Haarlem, xviii. 1863, no. 2, p. 111, pl. xxiii. fig. 2; Sauv. N. Arch. Mus. (2) iii. 1880, p. 48, pl. iii. fig. 2.

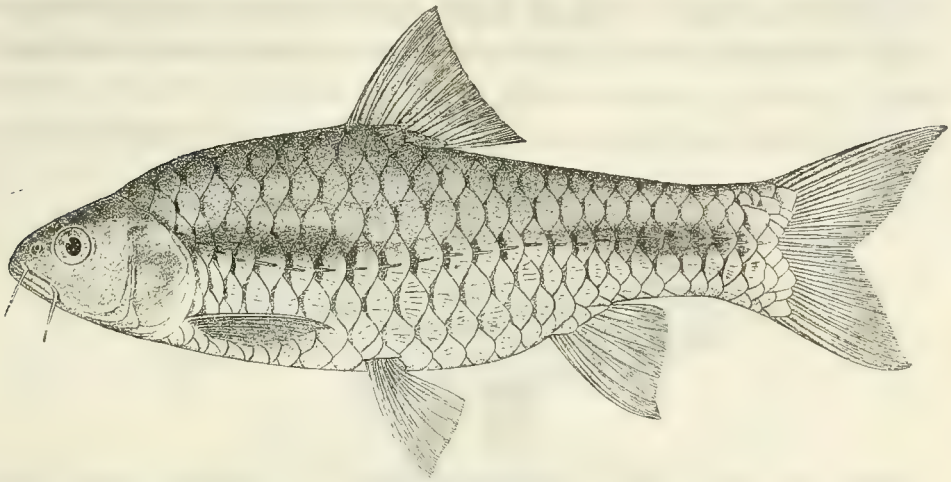
Barbus camptacanthus, Günth. Cat. Fish. vii. p. 134 (1868); Bouleng. Ann. & Mag. N. H. (7) xviii. 1906, p. 34.

Puntius tholonianus, Thomin. Bull. Soc. Philom. (7) x. 1886, p. 164.

Depth of body 3 to $3\frac{1}{3}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout rounded, longer than eye in the adult, as long as eye in the young; eye $3\frac{1}{2}$ (young) to 5 times in length of head, interorbital width $2\frac{1}{3}$ to $2\frac{1}{2}$ times; mouth inferior; lips moderate; two barbels on each side, equal in length, 1 to $1\frac{1}{2}$ times diameter of eye. Small nuptial pearl-like tubercles on side of head. Dorsal III 8, a little nearer occiput than caudal, border slightly concave; last simple ray flexible, not enlarged, not serrated, $\frac{4}{5}$ to $\frac{5}{6}$ length of head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ to $\frac{4}{5}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 21–25 $\frac{3\frac{1}{2}-4\frac{1}{2}}{4\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and ventral, 12 round caudal peduncle. Dark olive-green above, shading to golden on the sides, and white beneath; scales of the sides dark at the base, most of those of the lateral line with a black spot at the base; a more or less distinct dark lateral stripe, usually expanding

and more intensely black in front and on the caudal peduncle; all the fins, vertical and paired, bright vermilion.

Fig. 144.



Barbus camptacanthus.
Fernando Po. $\frac{5}{6}$.

Total length 155 millim.

Niger, Fernando Po, Cameroon, Spanish Guinea.—Types in Leyden Museum.

1. Ad.	R. Bonny.	Mr. J. Wood (C.).
2. Skel.	,,	,,
3–4. Ad.	Fernando Po.	Mr. L. Fraser (C.).
5–6. Ad.	,,	E. Lort Phillips, Esq. (P.).
7–26. Ad., hgr., & yg.	,,	Mr. E. Seimund (C.).
27. Ad.	Nyong R., S. Cameroon.	G. L. Bates, Esq. (C.).
28–30. Ad. & yg.	Lobi R., ,,	,,
31–32. Ad. & hgr.	Zima Country, ,,	,,
33–36, 37–40. Ad. & hgr.	Kribi R., ,,	,,
41–42. Ad.	Ja R., ,,	,,
43. Hgr.	Benito R., Spanish Guinea.	,,

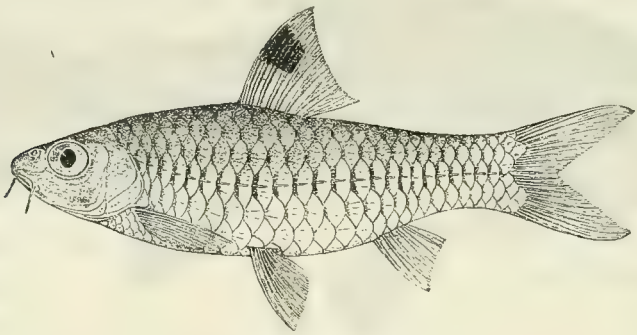
163. BARBUS CALLIPTERUS.

Bouleng. Ann. & Mag. N. H. (7) xx. 1907, p. 486.

Depth of body 3 to $3\frac{1}{3}$ times in total length, length of head $3\frac{1}{2}$ to $3\frac{2}{3}$ times. Snout rounded, not longer than eye, which is $2\frac{2}{3}$ to $3\frac{1}{4}$ times in length of head and equals interorbital width; mouth terminal, small; lips moderate; two barbels on each side, subequal, $\frac{2}{3}$ to $\frac{3}{4}$ diameter of

eye. Dorsal III 8, nearer occiput than caudal, border slightly concave; last simple ray not enlarged, not serrated, nearly as long as head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle about $1\frac{1}{2}$ times as long as deep. Scales radiately

Fig. 145.



Barbus callipterus.
Type.

striated, 23–26 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 10–12 round caudal peduncle. Yellow, brownish on the back, the dorsal and lateral scales dark brown at the base; dorsal orange in its basal half, white in its distal half, with a large deep black spot between the last simple ray and the third branched ray; other fins white, the caudal pink or orange at the base.

Total length 80 millim.

Cameroon, Old Calabar, Lagos.

1–4. Types.	Kribi R. at Akok, S. Cameroon.	G. L. Bates, Esq. (C.).
5–10. Ad. & hgr.	Cross R. district, Old Calabar.	Major W. A. Crawford Cockburn (P.).
11–19. Ad.	Head-water of Omi R., Lagos.	Major G. E. Bruce (P.).

164. BARBUS WERNERI.

Barbus miolepis, Bouleng. Ann. & Mag. N. H. (7) xii. 1903, p. 532 (nec Bouleng. 1902).

Barbus werneri, Bouleng. Proc. Zool. Soc. 1905, i. p. 63, and Fish. Nile, p. 253, pl. xlvii. fig. 6 (1907).

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout rounded, shorter than eye, which is $2\frac{1}{2}$ to $3\frac{1}{3}$ times in length of head and equals interorbital width; mouth terminal, narrow; lips feebly developed; two barbels on each side, anterior a little shorter

than eye, posterior as long as eye or a little longer. Dorsal III 8 (rarely 7), equally distant from end of snout and from caudal, border scarcely concave; last simple ray not enlarged, not serrated, nearly as long as head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 24–26 $\frac{4\frac{1}{2}}{3\frac{1}{2}-4\frac{1}{2}}$, 2 between lateral line and ventral, 12

Fig. 146.

Barbus werneri.
Type (F. N.).

round caudal peduncle. Yellowish, with the sides silvery and bearing three to eight black dots or round spots, the second or third below the dorsal, the last on the caudal peduncle near the caudal fin; fins whitish.

Total length 40 millim.

Lower Nile to Bahr-el-Gebel, Lakes Rudolf and Abaia, Rovuma River.

1. Ad.	Alexandria.	C. H. Schoeller, Esq. (P.).
2–4. Ad. & yg.	Birket Karun, Fayum.	Dr. Cunnington and C. L. Boulenger, Esq. (C.).
5–6. Hgr.	Wady Halfa.	Dr. F. Werner (P.).
7. Type.	Kaka, White Nile.	L. Loat, Esq. (C.).
8. Type.	Fashoda, „	„
9–13. Type.	Lake No, „	„
14. Type.	Gondokoro, Bahr-el-Gebel.	„
15–18. Hgr.	Pond near Gondokoro.	Dr. F. Werner (P.).
19. Ad.	L. Rudolf.	Dr. Donaldson Smith (P.).
20–22. Ad.	Rovuma R.	Sir J. Kirk (P.).

165. BARBUS ARCISLONGÆ.

Barbus trispilopleura, var. *arcislongæ*, Keilhack, Sitzb. Ges. naturf. Fr. Berl. 1908, p. 167.

Described as agreeing in form and coloration with *B. trispilopleura*, but differing in the more elongate body (its depth $3\frac{3}{4}$ to $4\frac{1}{2}$ times in total length), the shorter and broader head, longer anterior barbel,

deeper anal, more slender caudal peduncle, and more numerous scales (31–33 in the lateral line).

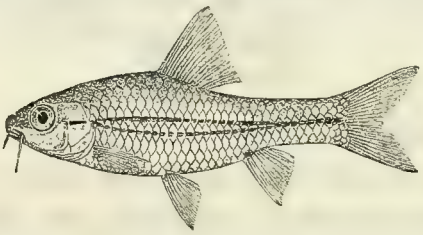
Lake Nyassa.—Types in Berlin Museum.

166. BARBUS VIVIPARUS.

M. Weber, Zool. Jahrb., Syst. x. 1897, p. 153.

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Snout rounded, a little shorter than eye, which is 3 times in length of head; interorbital width $2\frac{1}{3}$ times in total length; mouth small, subinferior; lips thin; two barbels on each side, anterior a little

Fig. 147.



Barbus viviparus.
Durban.

shorter than eye, posterior $1\frac{1}{3}$ to $1\frac{1}{2}$ diameters of eye. Dorsal III 8, equally distant from centre of eye and from caudal, border straight; last simple ray not enlarged, not serrated, nearly as long as head. Anal II 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 29–31 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 3 between lateral line and ventral, 12 round caudal peduncle. Olive above, silvery beneath; a black line on each side of the head and body, meeting the likewise black lateral line above the anal fin; a black spot on each side of the base of the anal fin.

Total length 65 millim.

Natal.—Types in Amsterdam University Museum.

1. Ad. Near Durban. J. F. Quekett, Esq. (P.).

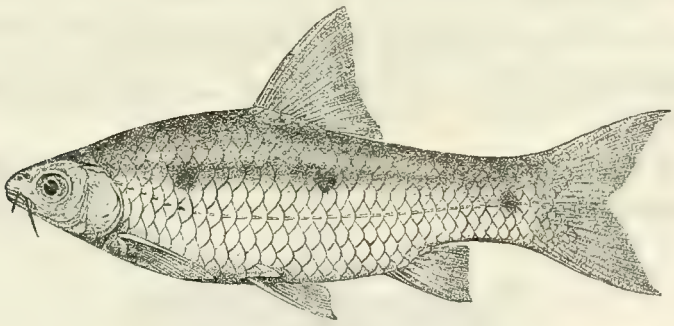
167. BARBUS PERINCE.

Rüpp. Mus. Senckenb. ii. p. 12, pl. ii. fig. 2 (1837); Günth. Cat. Fish. vii. p. 105 (1868), and Petherick's Trav. ii. p. 262 (1869); Bouleng. Fish. Nile, p. 246, pl. xlvii. fig. 2 (1907).

Depth of body $2\frac{3}{4}$ to $3\frac{1}{3}$ times in total length, length of head $3\frac{2}{3}$ to $4\frac{1}{2}$

times. Snout rounded, $3\frac{1}{2}$ to $4\frac{1}{2}$ times in length of head, eye 3 to $3\frac{1}{2}$ times, interorbital width $2\frac{1}{3}$ to $2\frac{1}{2}$ times; mouth terminal or subinferior, small; lips feebly developed; two barbels on each side, anterior $\frac{1}{2}$ to $\frac{4}{5}$ diameter of eye, posterior $\frac{5}{6}$ to $1\frac{1}{5}$. Dorsal III 8 (rarely 7), equally distant from anterior border or centre of eye and from caudal, border more or less distinctly concave; last simple ray not enlarged, not serrated, nearly as long as or a little longer than head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching (rarely nearly reaching) ventral; base of latter below anterior rays of dorsal. Caudal

Fig. 148.



Barbus perince.
Rosetta Nile (F. N.).

peduncle 1 to $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 28–32 $\frac{4\frac{1}{2}-5\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, 2–3 between lateral line and ventral, 12–14 round caudal peduncle. Silvery, back greenish, fins white or tinged with yellow; often three more or less distinct round blackish spots on each side of the body, the first before, the second behind vertical of base of dorsal, the third at root of caudal.

Total length 105 millim.

Lower Nile to Blue Nile and Bahr-el-Gebel.—Types in Senckenberg Museum, Frankfort/M.

1, 2–4. Hgr. & yg.	L. Menzaleh at Ghet-el-Nassara.	L. Loat, Esq. (C.).
5–9. Ad.	Lower Nile.	J. Petherick, Esq. (C.).
10. Skel.	„	„
11. Ad.	Rosetta Nile, near Barrage.	L. Loat, Esq. (C.).
12–16. Ad.	Damietta Nile, „	„
17–20. Types.	Nile at Cairo.	Dr. Rüppell (C.).
21–22. Ad.	„	L. Loat, Esq. (C.).
23. Ad.	Nile near Cairo.	„
24–26. Ad. & hgr.	Canal near Cairo.	„

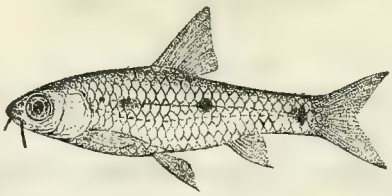
27–36. Hgr. & yg.	Giza, near Cairo.	Capt. S. Flower (P.).
37–46. Ad. & hgr.	Embabeh, Lower Nile.	,,
47–56. Ad. & hgr.	Beni Souef, ,,	L. Loat, Esq. (C.).
57. Skel.	,, ,,	,,
58–60. Ad.	Between Abu Tig and Assiut.	,,
61–69. Ad. & hgr.	Near Luxor.	,,
70–73. Ad. & hgr.	Between Luxor and Assuan.	,,
74–77. Ad. & hgr.	Assuan.	,,
78. Hgr.	Rosaires, Blue Nile.	Capt. S. Flower (P.).
79. Ad.	Gharb-el-Aish, White Nile.	L. Loat, Esq. (C.).
80–82. Ad. & hgr.	Fashoda, White Nile.	,,
83. Hgr.	Gondokoro, Bahr-el-Gebel.	,,

168. BARBUS TRISPILOPLEURA.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 437, and Fish. Nile, p. 249, pl. xlvii. fig. 3 (1907).

Depth of body equal to length of head, $3\frac{1}{2}$ times in total length. Snout rounded, shorter than eye, which is 3 times in length of head;

Fig. 149.



Barbus trispilopleura.
Type (F. N.).

interorbital width $2\frac{1}{2}$ times in length of head; mouth small, terminal; lips feebly developed; two barbels on each side, anterior $\frac{2}{3}$ diameter of eye, posterior a little longer than eye. Dorsal III 7–8, equally distant from anterior border of eye and from caudal, border straight; last simple ray not enlarged, not serrated, as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales radiately striated, 27–28 $\frac{4\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Brownish above, silvery on the sides and below; three round black spots on each side, first and second above lateral line, third on lateral line at base of caudal; fins greyish.

Total length 45 millim.

Lake Tsana, Abyssinia.

1–3. Types.	Bahardar.	Mr. E. Degen (C.).

169. BARBUS NEGLECTUS.

Bouleng. Ann. & Mag. N. H. (7) xii. 1903, p. 532, and Fish. Nile, p. 251, pl. xlvii. fig. 5 (1907).

Depth of body 3 to $3\frac{2}{3}$ times in total length, length of head 4 to $4\frac{1}{3}$ times. Snout rounded, shorter than eye, which is $2\frac{1}{2}$ to 3 times in length of head and equals interorbital width; mouth small, terminal or subinferior; lips feebly developed; two barbels on each side, anterior half diameter of eye, posterior as long as eye or a little shorter. Dorsal III 8, equally distant from anterior border of eye and from caudal, border feebly concave; last simple ray not enlarged, not serrated, as long as or a little longer than head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not reaching ventral; base of latter below or a little behind origin of dorsal. Caudal peduncle 1 to $1\frac{1}{3}$ times as

Fig. 150.

Barbus neglectus.
Type (F. N.).

long as deep. Scales radiately striated, 26–30 $\frac{3\frac{1}{2}-4\frac{1}{2}}{3\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral fin, 12 round caudal peduncle. Yellowish, with a broad silvery lateral band, fins white and transparent; some of the smaller specimens with a dark dot at the base of the caudal fin and another at the base of the anal.

Total length 54 millim.

Lower Nile to Blue Nile.

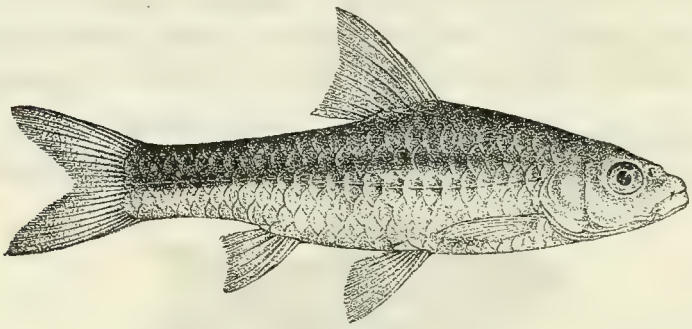
1. Type.	Ghet-el-Nassara, L. Menzaleh.	L. Loat, Esq. (C.).
2–3. Types.	Damietta Nile near Barrage.	,,
4–23. Types.	Near Luxor.	,,
24–25. Types.	Between Luxor and Assuan.	,,
26–27. Ad.	Wad Medine, Blue Nile.	Capt. S. Flower (P.).
28–31. Ad.	Rosaires, Blue Nile.	,,

170. BARBUS DOGGETTI.

Bouleng. Ann. & Mag. N. H. (7) xiii. 1904, p. 450, and Fish. Nile, p. 255, pl. xlvi. fig. 3 (1907).

Depth of body equal to length of head, $3\frac{2}{3}$ times in total length. Snout rounded, $3\frac{1}{3}$ times in length of head, eye $3\frac{2}{3}$ times, interorbital width 3 times; mouth terminal; lips feebly developed; two barbels on each side, minute. Dorsal III 8, equally distant from anterior border of eye and from caudal, border scarcely emarginate; last simple ray not enlarged, not serrated, as long as head. Anal III 5, not reaching caudal.

Fig. 151.



Barbus doggetti.
Type (F. N.). $\frac{5}{6}$.

Pectoral $\frac{3}{4}$ length of head, not quite reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle nearly twice as long as deep. Scales radiately striated, 29 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral fin, 12 round caudal peduncle. Brownish above, silvery on the sides and below; a plumbeous lateral streak; fins whitish.

Total length 96 millim.

Lake Victoria.

1. Type.	L. Victoria.	Mr. W. G. Doggett (C.); Col. Delmé Radcliffe (P.).

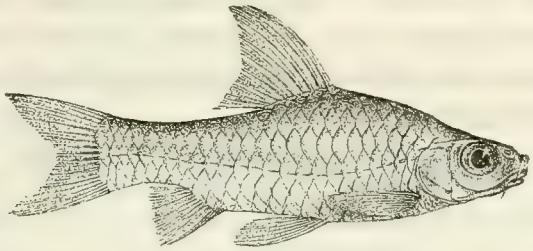
171. BARBUS CONGICUS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 100, pl. xl. fig. 3 (1899), and Poiss. Bass. Congo, p. 226 (1901).

Depth of body $2\frac{3}{4}$ to 3 times in total length, length of head $3\frac{1}{2}$ to $3\frac{2}{3}$ times. Snout rounded, shorter than eye, which is $2\frac{1}{2}$ to 3 times in length of head and equals interorbital width; mouth small, subinferior;

lips feebly developed; two barbels on each side, posterior a little longer than anterior and $\frac{1}{2}$ to $\frac{3}{5}$ diameter of eye. Dorsal III 8, equally distant from centre of eye and from caudal, border feebly concave; last simple ray not enlarged, not serrated, as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter

Fig. 152.



Barbus congicus.
Type (A. M. C.).

below anterior rays of dorsal. Caudal peduncle about $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 23–25 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral, 8 round caudal peduncle. Olive-grey above, green on the sides, white beneath; pectorals white, other fins red.

Total length 75 millim.

Lower Congo.—Types in Congo Museum, Tervueren.

1–2. Two of the types. Matadi. M. P. Delhez (C.).

172. BARBUS PLEUROPHOLIS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 100, pl. xl. fig. 4 (1899), and Poiss. Bass. Congo, p. 227 (1901).

Depth of body equal to length of head, $3\frac{1}{3}$ times in total length.

Fig. 153.

Barbus pleuropholis.
Type (A. M. C.).

Snout rounded, shorter than eye, which is $2\frac{2}{3}$ times in length of head and equals interorbital width; mouth small, subinferior; lips feebly

developed; two barbels on each side, posterior the longer, $\frac{1}{2}$ diameter of eye. Dorsal III 8, equally distant from eye and from caudal, border feebly concave; last simple ray not enlarged, not serrated, a little longer than head. Anal III 5, not reaching caudal. Pectoral $\frac{4}{5}$ length of head, nearly reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales radiately striated, those of the lateral line series much deeper than the others, 22–23 $\frac{2\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral, 8 round caudal peduncle. Pale brown above, white beneath, the scales edged with crimson.

Total length 40 millim.

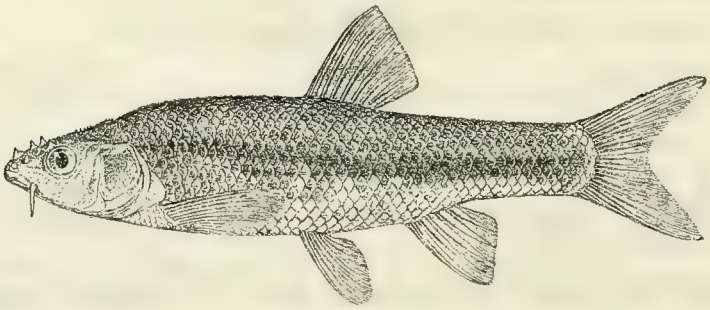
Upper Congo.—Types in Congo Museum, Tervueren.

1. One of the types. Coquilhatville. M. P. Delhez (C.).

173. BARBUS ASPER, sp. n.

Depth of body $3\frac{2}{3}$ to $4\frac{1}{4}$ times in total length, length of head 4 times. Snout rounded, 3 to $3\frac{1}{4}$ times in length of head; eye 4 to $4\frac{1}{2}$ times in length of head, interorbital width 3 times; mouth inferior; lips moderate; a single barbel on each side, as long as or slightly longer

Fig. 154.



Barbus asper.
Male, type.

than eye; upper surface of head of breeding male with spine-like tubercles, those on snout very large. Dorsal III 7, equally distant from occiput and from caudal, border straight; last simple ray not enlarged, not serrated, $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, nearly reaching ventral in males, not in females; base of ventral below anterior rays of dorsal. Caudal peduncle $1\frac{2}{3}$ to $1\frac{3}{4}$ times as long as deep. Scales radiately striated, 37–42 $\frac{8\frac{1}{2}}{8\frac{1}{2}-9\frac{1}{2}}$, 5–6 between lateral line and ventral, 18–20 round caudal

peduncle; dorsal scales rough with minute spinose nuptial tubercles. Brown above, whitish beneath, the scales on the sides darker in the centre; an ill-defined dark lateral band.

Total length 110 millim.

Cape Colony.

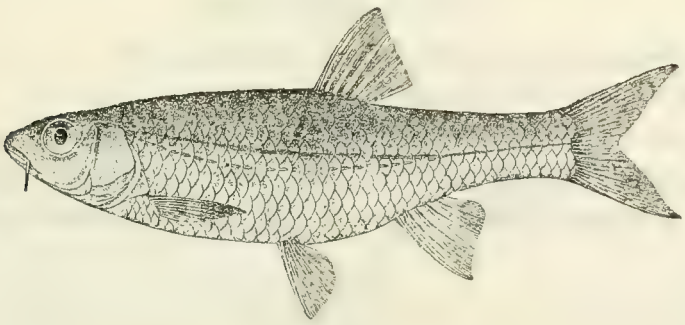
1. Ad.	Groote R., Sleytlerville.	Dr. J. D. F. Gilchrist (P.).
2–5. Ad. & yg.	Le Roux R., Ondtsloon.	,,

174. BARBUS ANOPLUS.

M. Weber, Zool. Jahrb., Syst. x. 1897, p. 151.

Depth of body $3\frac{2}{3}$ to 4 times in total length, length of head 4 times. Snout rounded, 3 to $3\frac{1}{2}$ times in length of head; eye 3 (young) to $4\frac{1}{2}$ times in length of head, interorbital width 3 times; mouth terminal

Fig. 155.



Barbus anoplus.
Port Elizabeth.

or subinferior; lips moderate; a single barbel on each side, $\frac{1}{2}$ (young) to 1 diameter of eye. Dorsal III 7 (rarely 6), equally distant from occiput and from caudal, border straight; last simple ray not enlarged, not serrated, a little shorter than head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, not reaching ventral; base of latter entirely or partly in advance of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 32–36 $\frac{5\frac{1}{2}-6\frac{1}{2}}{6\frac{1}{2}}$, $3\frac{1}{2}$–$4\frac{1}{2}$ between lateral line and ventral, 12–14 round caudal peduncle. Brown above, whitish beneath, the scales often darker in the centre; a blackish lateral streak from above origin of lateral line to root of caudal.

Total length 80 millim.

Eastern parts of Cape Colony, Natal, Orange River Colony, Transvaal.—Types in Amsterdam University Museum.

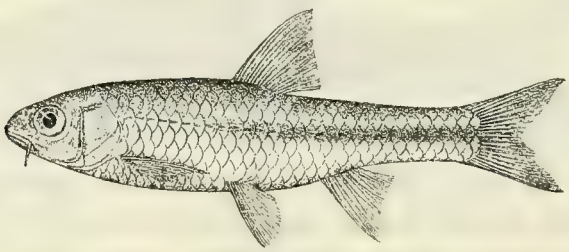
1–10. Hgr. & yg.	Grobelaars R. near Ondtsloon.	Dr. J. D. F. Gilchrist (P.).
11–17. Ad.	Baakens R., Port Elizabeth.	O. West, Esq. (P.).
18. Ad.	Port Elizabeth.	F. W. FitzSimons, Esq. (P.).
19–20. Hgr.	„	Mr. J. L. Drege (P.).
21–22. Ad.	Near Cathcart.	Dr. J. D. F. Gilchrist (P.).
23–25. Ad.	Buffalo R. near King William's Town.	Major H. Trevelyan (P.).
26–29. Yg.	Vredefort, Orange R. Colony.	Capt. Barrett-Hamilton (P.).
30–32. Ad. & hgr.	L. Chrissie, 150 m. E. of Pretoria.	P. A. Methuen, Esq. (P.).
33–34. Hgr.	Klein Olifant R., Transvaal.	Major G. E. Bruce (P.).
35–39. Hgr.	Groot Olifant R. at Kalkfontein, Transvaal.	S. Pershouse, Esq. (P.).

175. BARBUS AFER.

Barbus (*Capoëta*) *afer*, Peters, Mon. Berl. Ac. 1864, p. 395.
Barbus afer, Günth. Cat. Fish. vii. p. 148 (1868).

Depth of body equal to length of head, 4 times in total length. Snout rounded, as long as or a little shorter than eye, which is 3 to $3\frac{1}{2}$ times in length of head; interorbital width 3 times in length of head;

Fig. 156.



Barbus afer.
Cape Town.

mouth small, inferior; lips moderate; a single barbel on each side, $\frac{2}{3}$ to $\frac{3}{4}$ diameter of eye. Dorsal III 7, equally distant from eye and from caudal, border straight; last simple ray not enlarged, not serrated, a little shorter than head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, sometimes reaching ventral; base of latter originating slightly in advance of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 28–31 $\frac{4\frac{1}{2}}{5\frac{1}{2}}$, 3 between lateral line and

ventral, 12 round caudal peduncle. Brown above, whitish beneath, with a rather indistinct dark lateral band on the posterior half of the body, more distinct on the caudal peduncle; fins whitish.

Total length 70 millim.

Cape Colony.—Type in Berlin Museum.

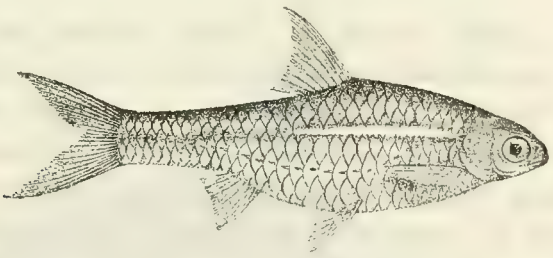
1. Ad.	Near Cape Town.	'Challenger' Expedition.

176. BARBUS MAGDALENÆ.

Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 437, and Fish. Nile, p. 256, pl. xlvi. fig. 4 (1907).

Depth of body $3\frac{1}{5}$ to $3\frac{3}{4}$ times in total length, length of head $4\frac{1}{3}$ to 5 times. Snout rounded, shorter than eye, which is $2\frac{2}{3}$ to 3 times in length of head; interorbital width $2\frac{1}{2}$ times in length of head; mouth

Fig. 157.



Barbus magdalenæ.
Type (F. N.).

small, terminal; lips very thin; no anterior barbel; posterior barbel very minute or absent. Dorsal III 8, equally distant from anterior border of eye and from caudal, border feebly concave; last simple ray not enlarged, not serrated, as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle twice as long as deep. Scales radiately striated, 29–32 $\frac{5\frac{1}{2}}{3\frac{1}{2}}$, 1–$1\frac{1}{2}$ between lateral line and ventral, 10 round caudal peduncle. Silvery, yellowish olive on the back, with a more or less distinct darker lateral stripe; fins yellow.

Total length 71 millim.

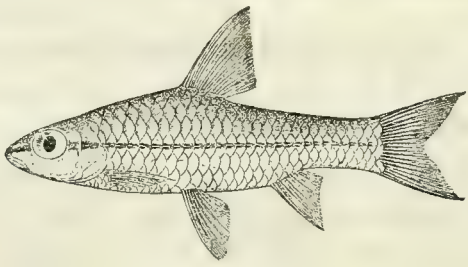
Lake Victoria.

1–8. Types.	Bunjako.	Mr. E. Degen (C.).
9. Skel.	,,	,,

177. BARBUS ROGERSI, sp. n.

Depth of body equal to length of head, $3\frac{1}{2}$ times in total length. Snout rounded, shorter than eye, which is $2\frac{2}{3}$ times in length of head; interorbital width 3 times in length of head; mouth very small, inferior;

Fig. 158.



Barbus rogersi.
Type, Que R. × $1\frac{1}{2}$.

lips moderate; barbels absent or a single minute one on each side. Dorsal III 8, equally distant from anterior border of eye and from caudal, border straight; last simple ray not enlarged, not serrated, as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 27–28 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Silvery, back olive; a blackish streak from the end of the snout, through the eye, and along the lateral line to the root of the caudal; dorsal edged with blackish.

Total length 55 millim.

Que River, Angola; Upper Zambesi.

1. Type.	Que R.	Dr. W. J. Ansorge (C.).
2. Type.	Umsitu R., Broken Hill, N.W. Rhodesia.	Rev. F. A. Rogers and E. C. Chubb, Esq. (P.).

178. BARBUS BRAZZÆ.

Pellegr. Bull. Mus. Paris, 1901, p. 330 (1902), and Bull. Soc. Philom. (9) ix. 1907, p. 29, pl. i. fig. 2.

Depth of body 3 times in total length, length of head $3\frac{2}{3}$ times. Snout as long as eye, which is 3 times in length of head and equals interorbital width; mouth subinferior; lips moderate; no barbels. Dorsal III 8, equally distant from anterior border of eye and from

caudal, border scarcely concave; last simple ray not enlarged, not serrated, about as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{4}{5}$ length of head, reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales radiately striated, 26–28 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Olive-grey above, silvery below.

Total length 110 millim.

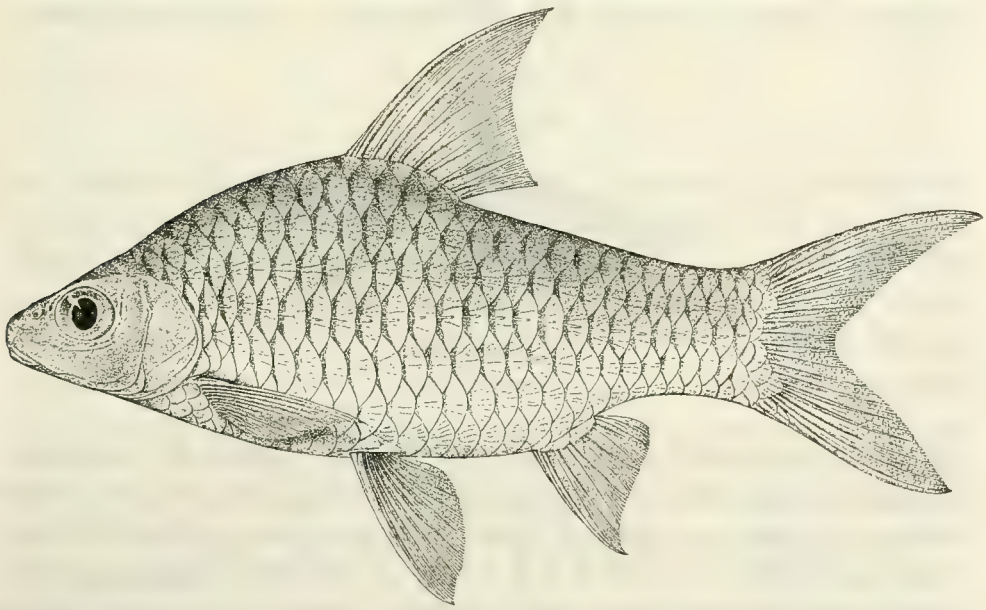
Upper Congo (Sanga River) and Ogowe.—Type in Paris Museum.

179. BARBUS ASPILUS.

Bouleng. Ann. & Mag. N. H. (7) xx. 1907, p. 337.

Depth of body $2\frac{1}{3}$ to $2\frac{3}{4}$ times in total length, length of head $3\frac{3}{4}$ to 4 times. Snout rounded, as long as or a little shorter than eye, which is 3 to $3\frac{1}{2}$ times in length of head and equals interorbital width; mouth

Fig. 159.



Barbus aspilus.
Type.

small, subinferior; lips moderate; no barbels. Dorsal III 8, equally distant from eye and from caudal, border slightly concave; last simple ray not enlarged, not serrated, as long as or a little longer than head. Anal III 5, not reaching caudal. Pectoral a little shorter than head,

reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle nearly as deep as long. Scales radiately striated, 24-27 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Yellowish brown above, the scales dark brown at the base, silvery below.

Total length 130 millim.

South Cameroon.

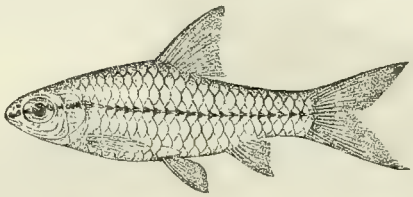
1. Type.	Ja R. at Bitye.	G. L. Bates, Esq. (C.).
2–4. Ad.	„ „	„
5. Skel.	„ „	„
6. Ad.	„ Efayong.	„

180. BARBUS ANEMA.

Bouleng. Ann. & Mag. N. H. (7) xii. 1903, p. 533, and Fish. Nile, p. 257, pl. xlvii. fig. 7 (1907).

Depth of body $2\frac{2}{3}$ to $3\frac{1}{3}$ times in total length, length of head $3\frac{1}{3}$ to 4 times. Snout rounded, shorter than eye, which is $2\frac{3}{4}$ to 3 times in length of head and nearly equals interorbital width; mouth small,

Fig. 160.



Barbus anema.
Type (F. N.).

terminal; lips feebly developed; no barbels. Dorsal III 8, equally distant from eye and from caudal, border scarcely concave; last simple ray not enlarged, not serrated, nearly as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{3}{4}$ or $\frac{4}{5}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle not or but slightly longer than deep. Scales radiately striated, 22–25 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 8–10 round caudal peduncle. Silvery, yellowish above, the dorsal scales sometimes edged with blackish; sometimes a blackish lateral streak, passing through the eye.

Total length 37 millim.

Lower Nile to Bahr-el-Gebel.

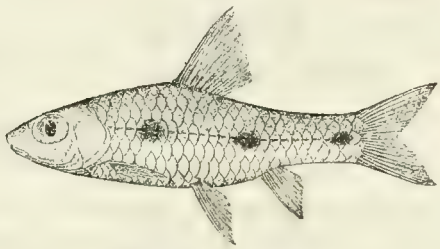
1–2. Types.	Between Luxor and Assuan.	L. Loat, Esq. (C.).
3–8. Types.	Fashoda, White Nile.	,,
9–14, 15–17, 18–20. Types.	Gondokoro, Bahr-el-Gebel.	,,

181. BARBUS TRISPILOMIMUS.

Bouleng. Ann. & Mag. N. H. (7) xx. 1907, p. 337; Pellegr. Bull. Soc. Philom. (10) i. 1909, p. 47.

Depth of body $3\frac{1}{4}$ times in total length, length of head 3 times. Snout rounded, shorter than eye, which is $2\frac{3}{4}$ times in length of head and equals interorbital width; mouth small, inferior, with thin lips;

Fig. 161.



Barbus trispilomimus.
Type. × $1\frac{1}{2}$.

no barbels. Dorsal III 8, equally distant from centre of eye and from caudal, border straight; last simple ray not enlarged, not serrated, as long as head. Anal III 5, not reaching caudal. Pectoral shorter than head, not reaching ventral; base of latter below middle of dorsal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales radiately striated, $23\ \frac{3\frac{1}{2}}{3\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral, 8 round caudal peduncle. Pale brownish above, silvery below; three large round black spots on each side of the body, on the lateral line, the first in front of the vertical of the dorsal, the second behind the vertical of the dorsal, the third in front of the caudal; two small black spots at the base of the dorsal.

Total length 35 millim.

Ogowe.

1. Type. —— ?

182. BARBUS SALESSII.

Pellegr. Bull. Mus. Paris, 1908, p. 207, and Bull. Soc. Philom. (9) x. 1908, p. 130, fig.

Depth of body 3 times in total length, length of head $3\frac{1}{2}$ times.

Snout rounded, as long as eye, which is about $3\frac{1}{2}$ times in length of head and equals interorbital width; mouth small, terminal; lips feebly developed; no barbels. Dorsal III 7, equally distant from centre of eye and from caudal, border straight; last simple ray not enlarged, not serrated, as long as head. Anal III 5, not reaching caudal. Pectoral $\frac{2}{3}$ length of head, not reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{3}{4}$ times as long as deep. Scales radiately striated, 22–24 $\frac{5\frac{1}{2}}{3\frac{1}{2}}$, $1\frac{1}{2}$ between lateral line series and ventral, 10 round caudal peduncle; lateral line extending on 5 to 8 anterior scales only. Yellowish, with a greyish lateral band; a round black spot at root of caudal.

Total length 44 millim.

French Guinea.—Types in Paris Museum.

1. One of the types. Rotuma near Konakry. Dr. Wurtz (C.); Paris Museum (E.).

183. BARBUS JÆ.

Bouleng. Ann. & Mag. N. H. (7) xii. 1903, p. 437.

Depth of body equal to length of head, $3\frac{1}{4}$ to $3\frac{1}{2}$ times in total length. Snout rounded, shorter than eye, which is barely 3 times in length of head; mouth small, nearly terminal, with feebly developed lips; no

Fig. 162.

Barbus jæ.
Type. × $1\frac{1}{2}$.

barbels. Dorsal III 7, equally distant from anterior border of eye and from caudal, border straight; last simple ray not enlarged, not serrated, a little shorter than head. Anal III 5, not reaching caudal. Pectoral shorter than head, not reaching ventral; latter a little behind vertical of origin of dorsal. Caudal forked. Caudal peduncle $1\frac{1}{2}$ to nearly twice as long as deep. Scales radiately striated, 20–23 $\frac{3\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line series and ventral, 8 round caudal peduncle. Lateral line absent or reduced to two or three tubules. Yellowish, the scales edged with dark

brown; a large round black spot on each side behind the gill-opening, another at the root of the caudal, and 3 to 8 dark vertical bars between them; a small blackish spot at the origin of the dorsal fin.

Total length 38 millim.

South Cameroon.

1–3. Types.	Ja R. at Bitye.	G. L. Bates, Esq. (C.).
4–13. Ad. & hgr.	„	„
14–16. Ad.	Bumba R. at Assobam.	„
17–19. Ad.	Kribi R. near Efulen.	„
20–25. Ad.	Zima Country.	„
26–30. Ad.	Nyong R.	„

184. BARBUS STIGMATOPYGUS.

Bouleng. Ann. & Mag. N. H. (7) xii. 1903, p. 533, and Fish. Nile, p. 258, pl. xlviii. fig. 8 (1907).

Depth of body equal or nearly equal to length of head, 3 to $3\frac{1}{2}$ times in total length. Snout rounded, much shorter than eye, which is 3 times in length of head and a little less than interorbital width; mouth small, terminal; lips feebly developed; no barbels. Dorsal III 8, equally distant from eye and from caudal, border feebly concave; last simple ray not enlarged, not serrated, as long or nearly as long as head. Anal III 5, not reaching caudal. Pectoral a little shorter than head, reaching or nearly reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales radiately

Fig. 163.

Barbus stigmatopygus.
Type (F. N.).

striated, 22–25 $\frac{3\frac{1}{2}-4\frac{1}{2}}{2\frac{1}{2}-3\frac{1}{2}}$, $1\frac{1}{2}$ between lateral line series and ventral, 9–11 round caudal peduncle; lateral line reduced to 3–6 tubules. Yellowish with silvery sheen; a small round black spot at the base of the caudal and another at the base of the anal; one or two black spots often present on the middle line of the side.

Total length 24 millim.

White Nile.

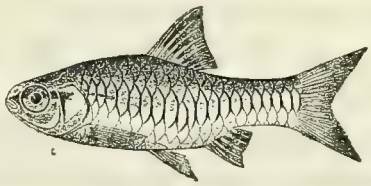
1–7. Types.	Lake No.	L. Loat, Esq. (C.).

185. BARBUS PUMILUS.

Bouleng. Ann. & Mag. N. H. (7) viii. 1901, p. 444, and Fish. Nile, p. 259, pl. xlviii. fig. 2 (1907).

Depth of body equal or nearly equal to length of head, about 3 times in total length. Snout rounded, a little shorter than eye, which is 3 times in length of head and a little less than interorbital width; mouth small, terminal; lips feebly developed; no barbels. Dorsal III 8, equally distant from eye and from caudal, border feebly concave; last simple ray not enlarged, not serrated, a little shorter than head.

Fig. 164.



Barbus pumilus.
Type (F. N.). × 2.

Anal III 5, not reaching caudal. Pectoral shorter than head, reaching or nearly reaching ventral; base of latter below anterior rays of dorsal. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Scales radiately striated, 19–21 $\frac{3\frac{1}{2}}{2\frac{1}{2}}$, $1\frac{1}{2}$ between lateral line series, which is formed of very deep scales, and ventral, 9 round caudal peduncle; lateral line reduced to 3 or 4 tubules. Yellowish above, scales edged with black, white beneath; a black streak on each side of the head, passing through the eye; a blackish vertical streak at the root of the anal; dorsal and anal with a red bar and one or two black ones.

Total length 26 millim.

White Nile.

1–10. Types. Lake No. L. Loat, Esq. (C.).

5. RASBORA.

Bleek. Nat. Tijdschr. Nederl. Ind. xx. 1860, p. 435, and Atlas Ichthyol. iii. p. 118 (1863); Günth. Cat. Fish. vii. p. 193 (1868).

Body more or less compressed, with rounded belly, covered with large or moderate scales. Lateral line low down, following the ventral outline of the body and running along the lower part of the caudal peduncle.

Mouth moderate, oblique, without lips or barbels, lower jaw projecting. Suborbitals large, covering the cheek. Dorsal fin without ossified ray, with 9 rays, 7 of which are branched, originating behind the vertical of the ventrals, but not extending to above the anal. Anal fin with 7 rays. A scaly process at the base of the ventrals. Pharyngeal teeth conical, hooked, in three series.

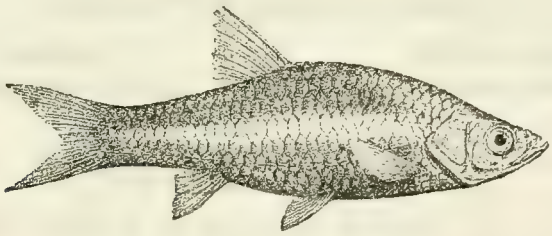
Eastern and South-Eastern Asia; one species in Africa.

1. RASBORA ZANZIBARENSIS.

Playf. & Günth. Fish. Zanzib. p. 119, pl. xvii. fig. 4 (1866); Günth. Cat. Fish. vii. p. 197 (1868).

Depth of body 3 times in total length, length of head $3\frac{1}{2}$ times. Head twice as long as broad, upper profile nearly straight; snout

Fig. 165.



Rasbora zanzibarensis.
Type, after Playfair & Günther (*l. c.*).

rounded, as long as eye, which is 4 times in length of head; interorbital width 3 times in length of head; mouth extending to below anterior border of eye; chin feebly prominent; naked space between præoperculum and suborbitals narrow. Gill-rakers nearly as long as gill-lamellæ, 13 on lower part of anterior arch. Dorsal II 7, originating midway between occiput and caudal, longest ray $\frac{2}{3}$ length of head. Anal II 5, longest ray $\frac{3}{5}$ length of head. Pectoral pointed, a little shorter than head, not reaching ventral. Caudal forked. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Scales with numerous radiating striæ, 33 $\frac{5\frac{1}{2}}{4\frac{1}{2}}$ 2 between lateral line and ventral, 14 round caudal peduncle. Uniform silvery.

Total length 65 millim.

Rovuma River, East Africa.

1. Type. Rovuma R. Sir L. Playfair (C.).

6. LEUCISCUS.

Cuv. Règne Anim. ii. p. 194 (1817) ; Günth. Cat. Fish. vii. p. 207 (1868).
Phoxinellus, Heckel, Russegger's Reise, ii. p. 1039 (1843) *.

Body more or less elongate, more or less compressed, with rounded or obtusely keeled belly ; scales large or small. Lateral line low down on the body, median on at least the posterior part of the caudal peduncle. Mouth moderate or rather large, without lips or barbels. Suborbitals small, cheek naked. Dorsal fin without ossified ray, with 9 to 14 rays, 6 to 11 of which are branched, originating above the ventrals or a little further back. Anal fin with 8 to 15 rays. Pharyngeal teeth conical, more or less hooked, in one or two series (in a single series, 5—5, in the African species).

Europe, Northern and Temperate Asia, North-West Africa, and North America.

Two closely allied species in Algeria and Tunisia:—

Anal III 9–10 ; Lat. l. 43–48 . . . . . 1. *L. callensis*, Guich., p. 188.
Anal III 7–8 ; Lat. l. 37–43 . . . . . 2. *L. chaignoni*, Vaill., p. 189.

1. LEUCISCUS CALLENSIS.

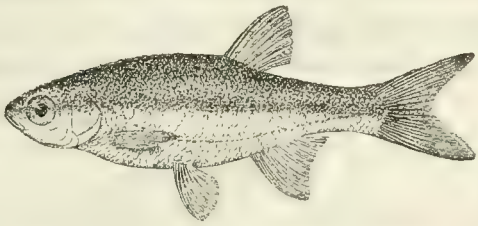
Guichen. Explor. Sc. Alg., Poiss. p. 94, pl. vii. fig. 2 (1850) ; Playf. & Letourn. Ann. & Mag. N. H. (4) viii. 1871, p. 391.
Leuciscus (*Phoxinellus*) *chaignoni*, part., Chaignon, Bull. Soc. H. N. Autun, xvii. 1904, pl. vi. figs. 5–6 ; Pellegr. in Gadeau de Kerv. Voy. Zool. Khroumir. p. 93 (1908).
Alburnus callensis, Bouleng. Ann. & Mag. N. H. (7) xvi. 1905, p. 46.

Depth of body $3\frac{1}{3}$ to 4 times in total length, length of head $3\frac{2}{3}$ to 4 times. Snout rounded, as long as or shorter than eye, which is 3 to $3\frac{1}{3}$ times in length of head and equals interorbital width ; mouth oblique, jaws equal in front. Gill-rakers few and short. Belly rounded. Dorsal III 7, originating above the middle of the space between ventrals and anal, and at equal distance from occiput or eye and from caudal, border convex ; longest ray a little shorter than head. Anal III 9–10, border slightly concave. Pectoral not quite reaching ventral. Caudal forked. Caudal peduncle $1\frac{1}{2}$ to 2 times as long as deep. Scales with numerous radiating striæ, 43–48 $\frac{9\frac{1}{2}\text{-}10\frac{1}{2}}{6\frac{1}{2}}$, $2\frac{1}{2}$–3 between lateral line and

* The other very numerous generic names which should be included under *Leuciscus* may well be left out here, as having no bearing on African Ichthyology.

ventral. Brownish or olive above, more or less profusely speckled with black; a more or less distinct dark lateral band, above the lateral line.

Fig. 166.



Leuciscus callensis.
Type.

Total length 75 millim.

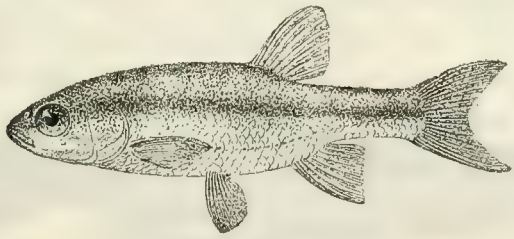
Northern Algeria and North-Western Tunisia.—Types in Paris Museum.

1. One of the types.	La Calle, Algeria.	M. Guichenot (C.); Paris Museum (E.).
2–5. Ad.	Algeria.	Sir L. Playfair (P.).
6–8. Ad. & hgr.	Wed Abdallah, N.W. Tunisia.	Vicomte H. de Chaignon (C.); Paris Museum (E.).
9–10. Ad. & hgr.	Wed Amor, N.W. Tunisia.	M. H. Gadeau de Kerville (C.); Paris Museum (E.).

2. LEUCISCUS CHAIGNONI.

Leuciscus (*Phoxinellus*) *chaignoni*, Vaill. Bull. Mus. Paris, 1904, p. 188, and Bull. Soc. H. N. Autun, xvii. 1904, p. 158, pl. vi. figs. 1–4.

Fig. 167.



Leuciscus chaignoni.
Type.

Very closely allied to, and barely separable from, the preceding. Differs by fewer anal rays (III 7–8) and rather larger scales (37–43 $\frac{9\frac{1}{2}}{5\frac{1}{2}}$, 2–3).

Total length 65 millim.

Eastern Algeria and North-Western Tunisia. — Types in Paris Museum.

1–3. Types.	Wed Bezirk, N.W. Tunisia.	Vicomte H. de Chaignon (C.); Paris Museum (E.).
4–6. Ad. & hgr.	Wed el Mahdi, N.W. Tunisia.	,,
7. Ad.	Ain Oumash, near Biskra.	Lord Walsingham (P.).

7. LEPTOCYPRIS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 133 (1900), and Poiss. Bass. Congo, p. 230 (1901).

Body elongate, feebly compressed, with rounded belly, covered with rather large scales. Lateral line low down on the body, ending in the middle of the caudal peduncle. Mouth rather large, oblique, without lips or barbels. Suborbitals large, covering the cheek. Dorsal fin without ossified ray, with 10 rays, 8 of which are branched, originating above the ventrals. Anal fin with 10 or 11 rays. A scaly process at the base of the ventrals. Pharyngeal teeth conical, hooked, in two series (5 . 3—3 . 5).

Congo.

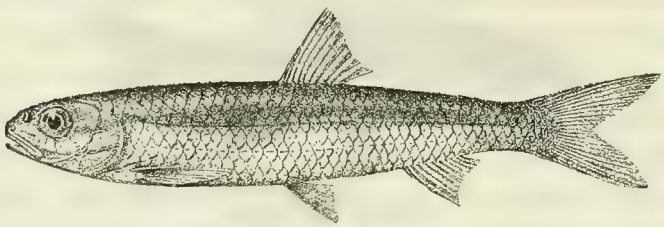
A single species.

1. LEPTOCYPRIS MODESTUS.

Bouleng. ll. cc. p. xlix. fig. 3, and Ann. Mus. Congo, Zool. ii. p. 21 (1902).

Depth of body 5 to 6 times in total length, length of head $4\frac{1}{3}$ to $4\frac{1}{2}$ times. Head twice as long as broad; snout rounded, projecting a

Fig. 168.



Leptocypris modestus.
Type (A. M. C.).

little beyond mouth, as long as eye, which is $3\frac{1}{2}$ to $3\frac{2}{3}$ times in length of head; interorbital width 3 to $3\frac{1}{2}$ times in length of head; mouth extending to below anterior fourth of eye. Gill-rakers rudimentary.

Dorsal II 8, equally distant from occiput and from caudal, border concave, longest ray $\frac{2}{3}$ length of head. Anal II 8–9. Pectoral pointed, $\frac{3}{4}$ length of head, not reaching ventral. Caudal forked. Caudal peduncle nearly twice as long as deep. Scales with radiating striæ, 40 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}}$, 2 between lateral line and ventral, 14 round caudal peduncle. Silvery, brownish on the back.

Total length 85 millim.

Upper Congo.—Type in Congo Museum, Tervueren.

1. One of the types.	Between New Antwerp and Stanley Falls.	Major Weyns (C.).
2. Ad.	Banzyville, Ubanghi.	Capt. Royaux (C.).

8. BARILIUS.

Ham. Buchan. Fish. Ganges, p. 384 (1822), part.; Günth. Cat. Fish. vii. p. 286 (1868); Bouleng. Poiss. Bass. Congo, p. 231 (1901), and Fish. Nile, p. 261 (1907).

Opsaridium, Peters, Mon. Berl. Ac. 1853, p. 783, and Reise Mossamb. iv. p. 58 (1868).

Pelotrophus, Günth. Proc. Zool. Soc. 1864, p. 314, and Cat. Fish. t. c. p. 320.

Body more or less compressed, with rounded belly, covered with small or moderately large scales. Lateral line low down, following the ventral outline of the body and running along the lower part of the caudal peduncle. Mouth large, oblique, without lips, with or without barbels. Suborbitals large, covering the whole or the greater part of the cheek. Gill-membranes narrowly united to the isthmus. Dorsal fin without ossified ray, with 9 to 13 rays, 7 to 10 of which are branched, originating behind the vertical of the ventrals and before that of the anal. Anal fin with 10 to 22 rays. A scaly process at the base of the ventrals. Pharyngeal teeth conical, hooked, in two or three series.

South-Eastern Asia and China, Nile and Tropical Africa.

Synopsis of the Species.

I. Dorsal entirely in advance of anal.

D. III 7–8; A. III 10–12; Sc. 36–40 $\frac{5\frac{1}{2}-6\frac{1}{2}}{3\frac{1}{2}-4\frac{1}{2}}$, 2–2$\frac{1}{2}$; head 2–2$\frac{1}{2}$ times as long as broad; depth of body 3$\frac{1}{2}$–5 times in total length; origin of dorsal midway between nostril or eye and caudal . . 1. *B. niloticus*, Joann., p. 193.

D. III 8; A. III 10; Sc. 39 $\frac{6\frac{1}{2}}{3\frac{1}{2}}$, 2; head $2\frac{1}{2}$ times as long as broad; depth of body 5 times in total length; origin of dorsal midway between occiput and caudal . . . . . 2. *B. weeksii*, Blgr., p. 195.

D. III 9; A. III 12; Sc. 45 $\frac{7\frac{1}{2}}{3\frac{1}{2}}$, 2; head $3\frac{1}{4}$ times as long as broad; depth of body 6 times in total length; origin of dorsal midway between centre of eye and caudal . . . . . 3. *B. longirostris*, Blgr., p. 195.

II. Last ray of dorsal corresponding to origin of anal.

D. III 8; A. III 13; Sc. 40–41 $\frac{6\frac{1}{2}}{3\frac{1}{2}}$, $1\frac{1}{2}$; depth of body $4\frac{1}{3}$–$4\frac{2}{3}$ times in total length; origin of dorsal midway between occiput and caudal . . . . . 4. *B. lujæ*, Blgr., p. 196.

D. III 8–9; A III 11–13; Sc. 38–41 $\frac{7\frac{1}{2}}{4\frac{1}{2}}$, 2; depth of body $3\frac{3}{4}$–$4\frac{1}{4}$ times in total length; origin of dorsal midway between eye and caudal . . . . . 5. *B. steindachneri*, Pellegr., p. 197.

III. At least $\frac{1}{3}$ of base of dorsal above anal.

A. 39–45 scales in lateral line.

D. II–III 9–10; A. III 10–11; Sc. 41–43 $\frac{7\frac{1}{2}}{3\frac{1}{2}}$, 2; depth of body 4–$4\frac{1}{3}$ times in total length . . . . . 6. *B. zambesensis*, Peters, p. 198.

D. III 8; A. III 14–15; Sc. 44–45 $\frac{7\frac{1}{2}}{3\frac{1}{2}}$, 1; depth of body 5 times in total length . 7. *B. weynsii*, Blgr., p. 198.

D. II 9–10; A. III 11–13; Sc. 42–45 $\frac{7\frac{1}{2}}{4\frac{1}{2}}$, 3; depth of body $3\frac{2}{3}$–$4\frac{1}{3}$ times in total length . . . . . 8. *B. neavii*, Blgr., p. 199.

D. II–III 8–9; A. III 12–14; Sc. 39–44 $\frac{8\frac{1}{2}}{3\frac{1}{2}-4\frac{1}{2}}$, 2; depth of body 3–$3\frac{2}{3}$ times in total length . . . . . 9. *B. ubangensis*, Pellegr., p. 200.

B. 46–63 scales in lateral line.

1. Dorsal with 7 or 8 (rarely 9) branched rays.

A. III 14; Sc. 46 $\frac{8\frac{1}{2}}{3\frac{1}{2}}$, 2 . . . . . 10. *B. buchholzi*, Peters, p. 201.

A. III 14–17; Sc. 49–51 $\frac{8\frac{1}{2}-9\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, 2–$2\frac{1}{2}$ . . . 11. *B. kingsleyæ*, Blgr., p. 202.

A. III 12–15; Sc. 50–58 $\frac{9\frac{1}{2}-10\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, 2–3 . . . 12. *B. loati*, Blgr., p. 203.

A. III 15; Sc. 59–63 $\frac{9\frac{1}{2}-10\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$ . . . . 13. *B. senegalensis*, Stdr., p. 204.

2. Dorsal with 9–10 branched rays.

A. III 15–17 ; Sc. 47–52 $\frac{9\frac{1}{2}-10\frac{1}{2}}{4\frac{1}{2}}$, 2 . . . . 14. *B. microcephalus,* Gthr., p. 205.

A. III 13–14 ; Sc. 55–60 $\frac{10\frac{1}{2}-11\frac{1}{2}}{7\frac{1}{2}}$, 3 . . . 15. *B. moorii*, Blgr., p. 206.

C. 80–88 scales in lateral line.

D. III 10 ; A. III 17 ; Sc. 82 $\frac{13\frac{1}{2}}{7\frac{1}{2}}$, 4 . . . 16. *B. tanganicæ*, Blgr., p. 207.

D. III 9–10 ; A. III 16–17 ; Sc. 80–88 $\frac{13\frac{1}{2}-14\frac{1}{2}}{8\frac{1}{2}}$, 5 . . . . . 17. *B. microlepis*, Gthr., p. 208.

1. BARILIUS NILOTICUS.

Leuciscus niloticus, Joannis, Mag. Zool. 1835, iv. pl. iii. ; Cuv. & Val. Hist. Poiss xvii. p. 311 (1844).

Leuciscus thebensis, Joannis, t. c. pl. xi.

Alburnus niloticus, Heck. Russegger's Reise Egypt. iii. p. 328 (1846).

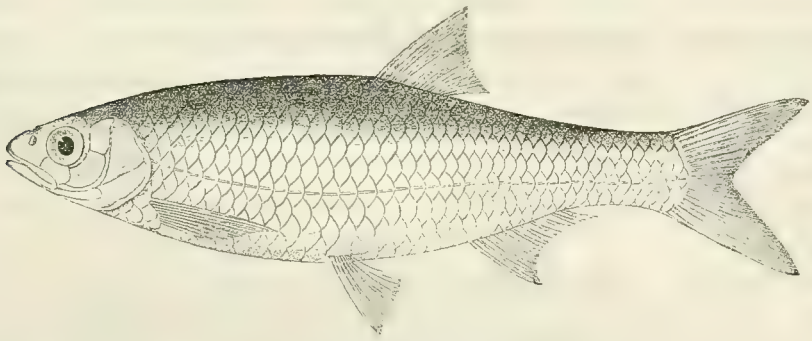
Opsarius thebensis, Heck. t. c. p. 329, pl. i.

Barilius niloticus, Günth. Cat. Fish. vii. p. 293 (1868), and Petherick's Trav. ii. p. 263 (1869) ; Steind. Sitz. Ak. Wien, ciii. i. 1894, p. 461 ; Bouleng. Ann. Mus. Congo, Zool. i. p. 102 (1899), and Fish. Nile, p. 262, pl. xlviii. fig. 3 (1907).

Barilius thebensis, Günth. Petherick's Trav. ii. p. 263.

Alburnus alexandrinus, Steind. Sitzb. Ak. Wien, cii. i. 1893, p. 240, pl. iii. fig. 3.

Fig. 169.



Barilius niloticus.
Lower Nile (F. N.).

Depth of body $3\frac{1}{2}$ to 5 times in total length, length of head 4 to $4\frac{1}{2}$ times. Head 2 to $2\frac{1}{2}$ times as long as broad ; snout rather pointed, not or but slightly projecting beyond mouth, not longer than eye, which is contained $3\frac{1}{3}$ to 4 times in length of head ; interorbital width equal to diameter of eye or a little greater ; mouth extending to below anterior border of pupil or centre of eye ; no barbels ; suborbital bones nearly

entirely covering the cheek in the adult, the second narrow and not extending posteriorly beyond centre of eye. Gill-rakers few and short. Dorsal III 7–8, above space between ventrals and anal, originating midway between nostrils or eye and root of caudal; first branched ray longest, $\frac{2}{3}$ to $\frac{4}{5}$ length of head. Anal III 10–12, first branched ray longest, $\frac{1}{2}$ to $\frac{3}{5}$ length of head. Pectoral acutely pointed, as long as or a little shorter than head, not reaching ventral; latter much shorter, not reaching vent. Caudal forked. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Scales with radiating striæ, 36–40 $\frac{5\frac{1}{2}-6\frac{1}{2}}{3\frac{1}{2}-4\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Uniform silvery, darker on the back; fins whitish.

Total length 95 millim.

Lower Nile to Bahr-el-Gebel and Blue Nile; Omo; Niger.

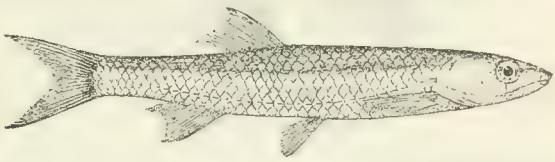
1–2. Ad.	Damietta Nile, near Samannud.	L. Loat, Esq. (C.).
3–5. Ad.	„ „ Barrage.	„
6. Ad.	Rosetta Nile, near Barrage.	„
7–11. Ad.	Ghiza, near Cairo.	Capt. S. Flower (P.).
12–14. Ad. & hgr.	Beni Souef, Lower Nile.	L. Loat, Esq. (C.).
15–18. Ad. & hgr.	Canal near Luxor.	„
19–33. Ad., hgr., & yg.	Regulator near Luxor.	„
34–83. Ad., hgr., & yg.	Between Luxor and Assuan.	„
84–86, 87–117. Ad.	Assuan.	„
118. Skel.	„	„
119–133. Hgr. & yg.	Wady Halfa.	„
134–142. Hgr. & yg.	Omdurman.	„
143–146. Ad. & yg.	Wad Medine, Blue Nile.	Capt. S. Flower (P.).
147–156. Hgr.	Rosaires, Blue Nile.	„
157. Hgr.	Gondokoro, Bahr-el-Gebel.	L. Loat, Esq. (C.).
158–159. Hgr.	Omo R., between Malo and Kosha.	Prof. O. Neumann (C.).
160–161. Ad.	Jebba, Upper Niger.	Dr. C. Christy (P.).
162–163. Ad. & hgr.	Ossomari, Lower Niger.	Dr. W. J. Ansorge (C.).

2. BARILIUS WEEKSII.

Bouleng. Ann. Mus. Congo, Zool. i. p. 103 (1899), & p. 134, pl. xlviii. fig. 4 (1900), and Poiss. Bass. Congo, p. 232 (1901).

Depth of body 5 times in total length, length of head $4\frac{1}{4}$ times. Head $2\frac{1}{2}$ times as long as broad; snout pointed, projecting slightly beyond lower jaw, as long as eye or interorbital width, $3\frac{2}{3}$ times in length of head; mouth extending to below anterior third of eye; no barbels; suborbital bones nearly entirely covering the cheek. Gill-rakers short and few. Dorsal III 8, above space between ventrals and anal, originating midway between occiput and root of caudal; anterior rays longest, $\frac{3}{5}$ length of head. Anal III 10, falciform, anterior rays longest. Pectoral pointed, shorter than head, widely separated from

Fig. 170.



Barilius weeksii.
Type (A. M. C.).

ventral. Caudal forked. Caudal peduncle twice as long as deep. Scales with radiating striæ, 39 $\frac{6\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral, 14 round caudal peduncle. Silvery, olive on the back.

Total length 70 millim.

Upper Congo.

1. Type. Monsembe. Rev. J. H. Weeks (P.).

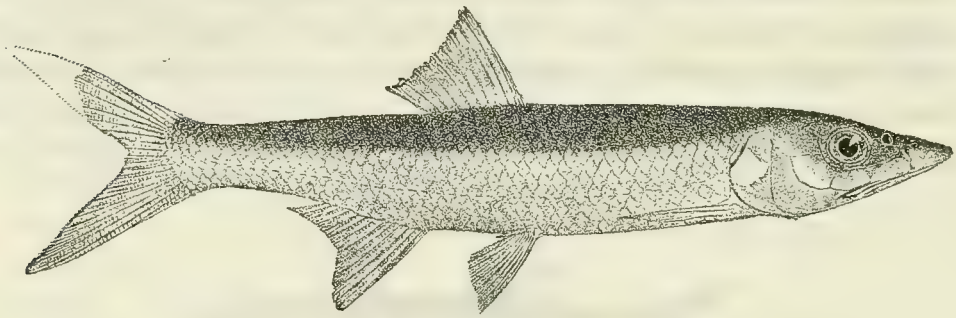
3. BARILIUS LONGIROSTRIS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 33, pl. ix. fig. 4 (1902).

Depth of body 6 times in total length, length of head $3\frac{1}{2}$ times. Head with straight upper profile, $3\frac{1}{4}$ times as long as broad, twice as long as deep; snout acutely pointed, projecting slightly beyond lower jaw, more than $\frac{1}{3}$ length of head; eye 5 times in length of head, equal to interorbital width; mouth extending to below posterior third of eye; no barbels; naked space between præoperculum and second suborbital nearly $\frac{2}{3}$ width of latter. Gill-rakers rudimentary. Dorsal III 9, above space between ventrals and anal, originating midway between centre of

eye and root of caudal; anterior rays longest, about $\frac{1}{2}$ length of head. Anal III 12, falciform, anterior rays much longer than posterior. Pectoral acutely pointed, $\frac{1}{2}$ length of head, widely separated from ventral. Caudal forked. Caudal peduncle twice as long as deep. Scales 45 $\frac{7\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral. Grey above, silvery white beneath; fins whitish, anterior rays of dorsal tipped with blackish.

Fig. 171.



Barilius longirostris.
Type (A. M. C.).

Total length 120 millim.

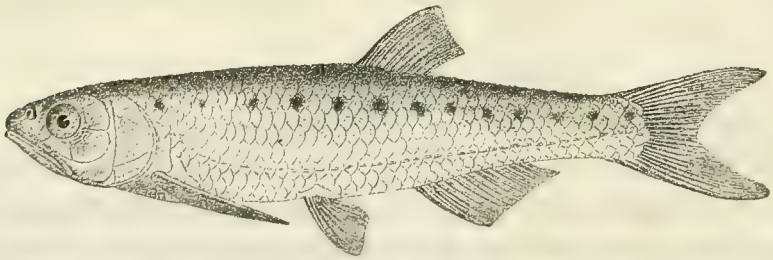
Ubanghi, Upper Congo.—Type in Congo Museum, Tervueren.

4. BARILIUS LUJÆ.

Boulenger. Catal. Poiss. Congo Mus. Luxemb. p. 9 (1909).

Depth of body $4\frac{1}{3}$ to $4\frac{2}{3}$ times in total length, length of head 4 times. Head twice as long as broad; snout obtusely pointed, as long as or a

Fig. 172.



Barilius lujæ.
Type.

little longer than eye, which is 4 times in length of head; interorbital width 3 times in length of head; mouth extending to below centre or posterior third of eye; no barbels; naked space between præoperculum

and suborbitals equal to width of second suborbital, the posterior border of which is below posterior third of eye. Gill-rakers few and short. Dorsal III 8, originating midway between occiput and root of caudal, its last ray above origin of anal; anterior rays longest, $\frac{2}{3}$ length of head. Anal III 13, anterior rays longest, as long as dorsals. Pectoral pointed, as long as or a little shorter than head, not reaching ventral. Caudal forked. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales with radiating striæ, 40–41 $\frac{6\frac{1}{2}}{3\frac{1}{2}}$, $1\frac{1}{2}$ between lateral line and ventral, 14 round caudal peduncle. Brownish above, whitish beneath; a series of 7 to 13 round blackish spots along each side of back.

Total length 125 millim.

Lower Congo.—Types in Luxemburg Museum.

1–2. Types. Sankuan R. (Kasai) at Kondue. M. Luja (C.); Luxemburg Museum (P.).

5. BARILIUS STEINDACHNERI.

Pellegr. Bull. Mus. Paris, 1908, p. 208, and Bull. Soc. Philom. (9) x. 1908, p. 131, fig.

Depth of body equal to length of head, $3\frac{3}{4}$ to $4\frac{1}{4}$ times in total length. Head twice as long as broad; snout rounded, not projecting beyond mouth, as long as eye or interorbital width, $3\frac{1}{2}$ to $3\frac{3}{4}$ times in length of head; mouth extending to below posterior third of eye; no barbels; suborbital bones nearly entirely covering the cheek, the second narrow and extending to below posterior border of eye. Gill-rakers few and short. Dorsal III 8–9, originating at equal distance from eye and from root of caudal, last ray above origin of anal; first branched ray longest, $\frac{2}{3}$ length of head. Anal III 11–13, first branched ray nearly as long as longest ray of dorsal. Pectoral pointed, $\frac{3}{4}$ to $\frac{4}{5}$ length of head, not reaching ventral. Caudal forked. Caudal peduncle twice as long as deep. Scales with radiating striæ, 38–41 $\frac{7\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 12 round caudal peduncle. Silvery, brownish on the back; 10 to 12 vertical bluish-grey bars on each side; fins orange.

Total length 90 millim.

French Guinea.—Types in Paris Museum.

1. One of the types. Mamu Lake (Caba R.), near Timbo, 1400 ft. Dr. Wurtz (C.); Paris Museum (E.).

6. BARILIUS ZAMBESENSIS.

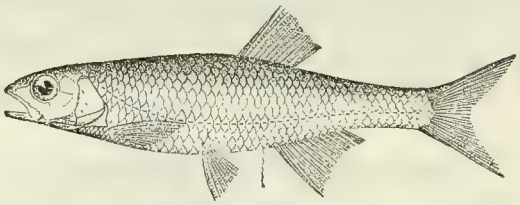
Leuciscus zambesensis, Peters, Mon. Berl. Ac. 1852, p. 682.

Opsaridion zambezense, Peters, op. cit. 1853, p. 783, and Reise Mossamb. iv. p. 58, pl. xi. fig. 5 (1868).

Barilius zambezensis, Günth. Cat. Fish. vii. p. 292 (1868).

Depth of body 4 to $4\frac{1}{3}$ times in total length, length of head $3\frac{2}{3}$ to 4 times. Head twice as long as broad; snout rounded, scarcely projecting beyond mouth, as long as or shorter than eye, which is $3\frac{1}{3}$ to 4 times in length of head and equals interorbital width; mouth extending to below

Fig. 173.



Barilius zambesensis.
Type, after Peters (Reise Mossamb.).

anterior third or centre of eye; no barbels; suborbitals nearly entirely covering the cheek. Gill-rakers few and very short. Dorsal II–III 9–10, originating midway between eye and caudal, posterior third above anal; anterior rays longest, about $\frac{2}{3}$ length of head. Anal III 10–11, anterior rays as long as longest dorsals. Pectoral pointed, $\frac{3}{4}$ to $\frac{4}{5}$ length of head, not reaching ventral. Caudal forked. Caudal peduncle twice as long as deep. Scales with radiating striæ, 41–43 $\frac{7\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral, 14 round caudal peduncle. Silvery white, back green; fins yellowish.

Total length 70 millim.

Zambesi.—Types in Berlin Museum.

1–3. Types. Zambesi. Prof. W. Peters (P.).

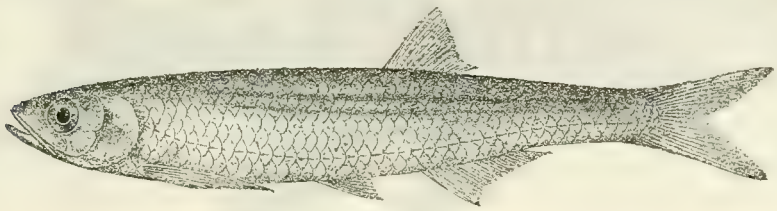
7. BARILIUS WEYNSII.

Bouleng. Ann. Mus. Congo, Zool. i. p. 104 (1899), & p. 135, pl. xlviii. fig. 5 (1900), and Poiss. Bass. Congo, p. 232 (1901).

Depth of body 5 times in total length, length of head 4 to $4\frac{1}{4}$ times. Head twice as long as broad; snout pointed, scarcely projecting beyond the mouth, as long as eye or interorbital width, $3\frac{1}{2}$ times in length of head; mouth extending to below centre of eye; no barbels; naked

space between præoperculum and suborbitals very narrow. Gill-rakers very short, rudimentary. Dorsal III 8, originating midway between occiput and root of caudal, or a little nearer latter, its posterior third above anal; anterior rays longest, not quite $\frac{1}{2}$ length of head. Anal III 14–15, similar to dorsal. Pectoral acutely pointed, as long as head, not reaching ventral. Caudal forked. Caudal peduncle twice as long as deep. Scales with radiating striæ, 44–45 $\frac{7\frac{1}{2}}{3\frac{1}{2}}$, 1 between lateral line and ventral, 12 round caudal peduncle. Silvery, olive on the back.

Fig. 174.



Barilius weynsii.
Type (A. M. C.).

Total length 95 millim.

Upper Congo.—Type in Congo Museum, Tervueren.

1. Type.	Between New Antwerp and Stanley Falls.	Capt. Weyns (C.).
2. Ad.	Banzyville, Ubanghi.	Capt. Royaux (C.).

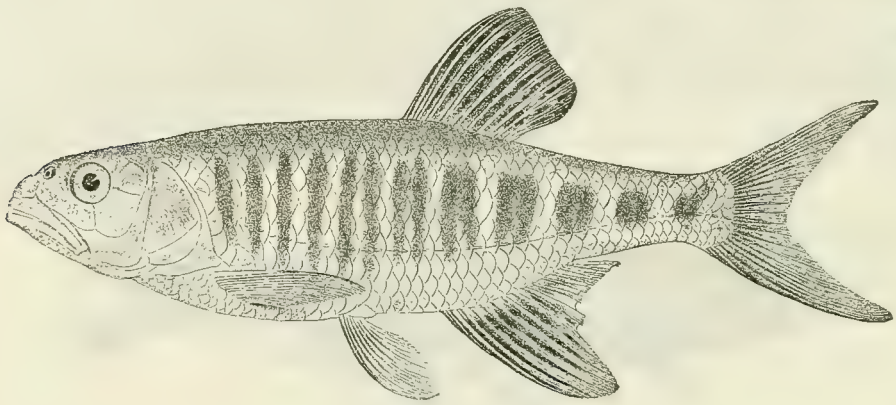
8. BARILIUS NEAVII.

Boulenger, Mem. Manchest. Lit. & Phil. Soc. li. 1907, no. 12, p. 3.

Depth of body $3\frac{2}{3}$ to $4\frac{1}{3}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Head 2 to $2\frac{1}{3}$ times as long as broad; snout obtusely pointed, longer than eye, which is 4 to $4\frac{1}{2}$ times in length of head; interorbital width 3 times in length of head; mouth extending to below anterior third or centre of eye; no barbels; naked space between præoperculum and suborbitals as broad as second suborbital. Gill-rakers few, rudimentary. Dorsal II 9–10, originating midway between eye and root of caudal, posterior half above anal; anterior rays longest, $\frac{3}{4}$ to $\frac{4}{5}$ length of head. Anal III–IV 11–13, with produced anterior lobe, longest ray as long as longest dorsal. Pectoral pointed, $\frac{2}{3}$ to $\frac{3}{4}$ length of head, reaching or nearly reaching ventral. Caudal forked, lower lobe longer than upper. Caudal peduncle 2 to $2\frac{1}{2}$ times as long as deep. Scales with radiating striæ, 42–45 $\frac{7\frac{1}{2}}{4\frac{1}{2}}$, 3 between lateral line and ventral, 14

round caudal peduncle. Breeding males with conical tubercles on the lower jaw. Silvery, brownish on the back; 8 or 9 vertical bars, or pairs of bars, on each side; the membrane between some or all of the dorsal and anal rays black.

Fig. 175.



Barilius neavii.
Type. $\frac{2}{3}$.

Total length 110 millim.
Zambesi System, Rhodesia.

1–5. Types.	Mountain stream near Petauke, N.E. Rhodesia.	S. A. Neave, Esq. (C.).
6. Ad.	Makabusi R., Mashonaland.	J. ff. Darling, Esq. (P.).

9. BARILIUS UBANGENSIS.

Pellegr. Bull. Mus. Paris, 1901, p. 250; Bouleng. Proc. Zool. Soc. 1902, i. p. 266.

Barilius fasciolatus, Bouleng. Ann. Mus. Congo, Zool. ii. p. 34, pl. ix. fig. 5 (1902).

Depth of body 3 to $3\frac{2}{3}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Head twice as long as broad; snout rounded, scarcely projecting beyond mouth, as long as or a little longer than eye, which is 3 (young) to $4\frac{1}{2}$ times in length of head; interorbital width $2\frac{1}{2}$ to 3 times in length of head; mouth extending to below anterior border or anterior third of eye; no barbels; naked space between præoperculum and suborbitals nearly equal to width of latter; posterior border of second suborbital below centre of eye. Gill-rakers few and short. Dorsal II–III 8–9, originating at equal distance from centre or posterior border of eye and from root of caudal, posterior half of its base above anal; anterior rays longest, $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Anal III 12–14, notched, produced into

an anterior lobe, longest rays as long as dorsals. Pectoral pointed, $\frac{3}{4}$ length of head, not reaching ventral. Caudal forked. Caudal peduncle about twice as long as deep. Scales with radiating striæ, 39–44 $\frac{8\frac{1}{2}}{3\frac{1}{2}-4\frac{1}{2}}$, 2 between lateral line and ventral, 14 round caudal peduncle. Breeding males with pearl-like tubercles on body and on anal, and larger, spinose tubercles on snout and on lower jaw. Olive above,

Fig. 176.

Barilius ubangensis.
Type of *B. fasciolatus* (A. M. C.).

silvery white beneath; 8 to 12 vertical dark bars on each side, some of these bars sometimes splitting into two; a dark streak along each lobe of the caudal; dorsal often black posteriorly.

Total length 120 millim.

Upper Congo, South Cameroon.—Types in Paris Museum.

1. One of the types of *B. fasciolatus*.	Banzyville, Ubanghi.	Capt. Royaux (C.).
2. Ad.	Near Isumu, Congo side of Mt. Ruwenzori, 3000 ft.	R. B. Woosnam, Esq. (C.); Ruwenzori Expedition.
3. Hgr.	Aruwimi R., Upp. Congo.	„
4. Hgr.	Lindi R., „	M. M. Storms (C.); Brussels Museum (P.).
5, 6–7. Ad.	Ja R., Congo System, S. Cameroon.	G. L. Bates, Esq. (C.).
8–19. Ad. & hgr.	Kribi R. at Efulen, „	„

10. BARILIUS BUCHHOLZI.

Opsaridium buchholzi, Peters, Mon. Berl. Ac. 1876, p. 251, pl. —. fig. 4.
Barilius buchholzi, Bouleng. Ann. Mus. Congo, Zool. i. p. 103 (1899).

Apparently agreeing in most points with *B. kingsleyæ*, which may ultimately have to be regarded as not separable from it, but distinguished by the smaller number of scales in the lateral line. Dorsal II 7.

Anal III 14. Scales 46 $\frac{8\frac{1}{2}}{3\frac{1}{2}}$, 2 between lateral line and ventral. No markings.

Total length 110 millim.

Ogowe.—Type in Berlin Museum.

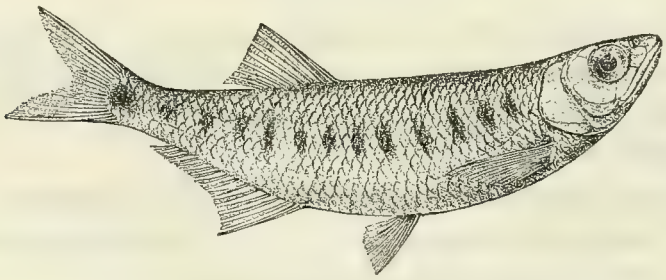
11. BARILIUS KINGSLEYÆ.

Barilius libie (non Joannis), Günth. Ann. & Mag. N. H. (6) xvii. 1896, p. 277, pl. xv. fig. C.

Barilius kingsleyæ, Bouleng. Ann. Mus. Congo, Zool. i. p. 103 (1899), and Poiss. Bass. Congo, p. 233 (1901).

Depth of body $4\frac{1}{2}$ to 5 times in total length, length of head $3\frac{2}{3}$ to 4 times. Head $2\frac{1}{4}$ to $2\frac{1}{2}$ times as long as broad, with feebly curved upper profile; snout pointed, not projecting beyond mouth, as long as or a little longer than eye, which is $3\frac{1}{2}$ to 4 times in length of head; interorbital width 3 to $3\frac{1}{2}$ times in length of head; mouth extending to below

Fig. 177.



Barilius kingsleyæ.
Type, after Günther (Ann. & Mag. N. H. 1896).

centre or posterior third of eye; no barbels; naked space between præoperculum and suborbitals not half the width of third suborbital. Gill-rakers few, rudimentary. Dorsal II–III 7, originating midway between occiput and root of caudal, or a little nearer latter, its posterior half or two-thirds above anal; anterior rays longest, about $\frac{3}{5}$ length of head. Anal III 14–17, anterior rays much longer than posterior, about as long as longest dorsals. Pectoral acutely pointed, a little shorter than head, not reaching, or nearly reaching ventral. Caudal forked. Caudal peduncle twice as long as deep. Scales with radiating striæ, 49–51 $\frac{8\frac{1}{2}\ 9\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, 2–$2\frac{1}{2}$ between lateral line and ventral, 14 round caudal peduncle. Breeding male with pearl-like tubercles on body, and very small spinose tubercles on snout and chin. Silvery, the back bluish or

olive; sides usually with 10 to 14 more or less distinct dark vertical bars above lateral line; a large blackish spot at root of caudal.

Total length 140 millim.

Congo, Ogowe, South Cameroon.

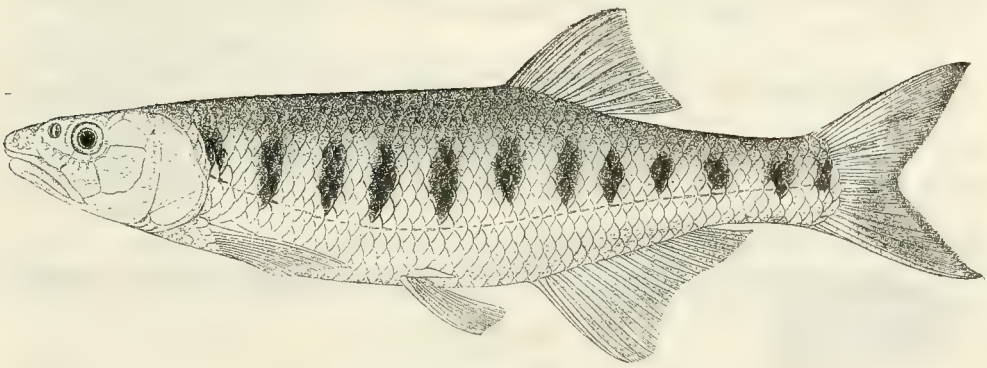
1. Type.	Ogowe.	Miss Kingsley (C.).
2–13. Ad. & hgr.	Kribi R. at Efulen, S. Cameroon.	G. L. Bates, Esq. (C.).

12. BARILIUS LOATI.

Bouleng. Ann. & Mag. N. H. (7) vii. 1901, p. 80, and Fish. Nile, p. 265, pl. xlviii. fig. 4 (1907).

Depth of body 4 to 5 times in total length, length of head $3\frac{2}{3}$ to $4\frac{1}{3}$ times. Head 2 to $2\frac{1}{3}$ times as long as broad; snout pointed, projecting beyond mouth, $1\frac{1}{2}$ to 2 times as long as eye in adult; eye 4 (young) to 6 times in length of head in adult; mouth extending to below centre or posterior third of eye; no barbels; second suborbital deep, extending

Fig. 178.



Barilius loati.
Type, Upper Nile (F. N.). $\frac{2}{3}$.

posteriorly to vertical of posterior border of eye; naked space between præoperculum and suborbitals about $\frac{1}{3}$ width of latter. Gill-rakers few and very short, rudimentary. Dorsal III 7–9, originating at equal distance from occiput and from root of caudal, or a little nearer latter, second half of its base above anal; anterior rays longest, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal III 12–15, notched, often produced into a convex anterior lobe, anterior rays much longer, about as long as longest dorsals. Pectoral pointed, $\frac{3}{4}$ to $\frac{4}{5}$ length of head, not reaching ventral, which is much shorter and does not reach beyond vent. Caudal deeply forked, crescentic when fully spread out. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales with radiating striæ, 50–58 $\frac{9\frac{1}{2}-10\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, 2–3 between

lateral line and ventral, 16 round caudal peduncle. Males with pearl-like granular excrescences on the anal and on the snout. Silvery white, green or steel-blue on the back, with ten to sixteen more or less distinct bluish-black vertical bars on each side of the body above the lateral line.

Total length 185 millim.

Lower Nile to Bahr-el-Gebel and Blue Nile; Omo River; Ogun River (Lagos).

1–3. Hgr. & yg.	Nile between Luxor and Assuan.	L. Loat, Esq. (C.).
4. Hgr.	Assuan.	,,
5–6. Types.	Derr, Nubia.	,,
7–9. Types.	Ibrim, Nubia.	,,
10. Skel.	,,	,,
11. Hgr.	Wad Medine, Blue Nile.	Capt. S. Flower (P.).
12–21. Ad. & hgr.	Gondokoro.	L. Loat, Esq. (C.).
22. Yg.	Omo R., between Malo and Kosha.	Prof. O. Neumann (C.).
23. Ad.	Zendo R., Omo System, 4300 ft.	Mr. P. C. Zaphiro (C.); W. N. MacMillan, Esq. (P.).
24–27. Ad. & hgr.	Ogun R. at Aro, near Abeokuta, Lagos.	Major G. E. Bruce (P.).

13. BARILIUS SENEGALENSIS.

Steind. Sitzb. Ak. Wien, lxi. i. 1870, p. 564, pl. v. fig. 2.

Depth of body 4 to $4\frac{2}{3}$ times in total length, length of head 4 times.

Fig. 179.

Barilius senegalensis.
Type (after Steindachner, *l. c.*). $\frac{3}{4}$.

Snout pointed, projecting slightly beyond mouth, about $1\frac{1}{2}$ diameters of

eye; latter $4\frac{1}{3}$ to 5 times in length of head, interorbital width $3\frac{3}{4}$ to $3\frac{4}{5}$ times; mouth extending to below centre of eye or a little beyond; no barbels; second suborbital extending posteriorly to vertical of posterior border of eye; naked space between præoperculum and suborbitals narrow. Dorsal III 8, originating at equal distance from occiput and from root of caudal, posterior third of its base above anal; anterior rays longest, about $\frac{2}{3}$ length of head. Anal III 15, notched, anterior rays about as long as longest dorsals. Pectoral pointed, about $\frac{3}{4}$ length of head, not reaching ventral. Caudal deeply forked. Caudal peduncle twice as long as deep. Scales 59–63 $\frac{9\frac{1}{2}-10\frac{1}{2}}{4\frac{1}{2}-5\frac{1}{2}}$, $2\frac{1}{2}$ between lateral line and ventral. Grey above, silvery white beneath; 12 dark bluish-grey vertical bars on each side of the body above the lateral line.

Total length 155 millim.

Senegal.—Types in Vienna Museum.

14. BARILIUS MICROCEPHALUS.

Pelotrophus microcephalus, Günth. Proc. Zool. Soc. 1864, p. 314, and Cat. Fish. vii. p. 321 (1868).

Barilius guentheri, Bouleng. Proc. Zool. Soc. 1896, p. 920, pl. xlvii.

Barilius microcephalus, Bouleng. Ann. Mus. Congo, Zool. i. p. 103 (1899).

Depth of body 4 to $4\frac{3}{4}$ times in total length, length of head 4 to $4\frac{1}{2}$ times. Head twice as long as broad; snout pointed, projecting a little

Fig. 180.

Barilius microcephalus.
Type of *B. guentheri* (P. Z. S. 1896). $\frac{3}{5}$.

beyond mouth, $1\frac{1}{2}$ to 2 times as long as eye, which is $4\frac{1}{2}$ to 6 times

in length of head; interorbital width $2\frac{1}{2}$ to 3 times in length of head; mouth extending to below centre of eye; no barbels; naked space between præoperculum and suborbitals narrow. Gill-rakers few, rudimentary. Dorsal III 9–10, originating midway between occiput or eye and caudal, second half of base above anal; anterior rays longest, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal III 15–17, anterior rays very long, as long as or a little shorter than head, forming a lobe sharply defined from the very short posterior rays. Pectoral pointed, $\frac{3}{4}$ to $\frac{4}{5}$ length of head, not reaching ventral. Caudal forked. Caudal peduncle 2 to $2\frac{1}{2}$ times as long as deep. Scales with very numerous radiating striæ, 47–52 $\frac{9\frac{1}{2}-10\frac{1}{2}}{4\frac{1}{2}}$, 2 between lateral line and ventral, 16–18 round caudal peduncle. Silvery, dark blue on the back; sides with about 15 dark vertical bars; membrane between dorsal rays often blackish.

Total length 340 millim.

Lake Nyassa and Upper Shiré.

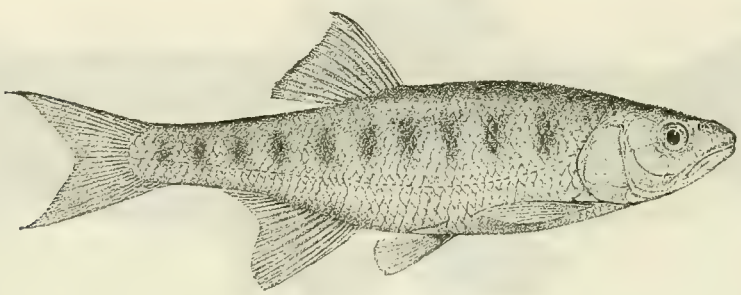
1–3. Skins, types.	L. Nyassa.	Sir J. Kirk (P.).
4–5. Ad.	,,	Prof. J. E. S. Moore (C.).
6. Skel.	,,	,,
7–9. Ad.	,,	Capt. E. L. Rhoades (P.).
10–12. Types of *B. guentheri.*	Upper Shiré.	Dr. Percy Rendall (C.); Sir H. H. Johnston (P.).

15. BARILIUS MOORII.

Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 480, Poiss. Bass. Congo, p. 234 (1901), and Tr. Zool. Soc. xvi. 1901, p. 146, pl. xiv. fig. 2, and xvii. 1906, p. 549.

Depth of body equal to length of head, 4 to $4\frac{1}{4}$ times in total length.

Fig. 181.



Barilius moorii.
Type (Tr. Z. S. 1901).

Head twice or a little more than twice as long as broad; snout pointed, not projecting beyond mouth, as long as or a little longer than eye,

which is 4 to $4\frac{1}{2}$ times in length of head; interorbital width 3 to $3\frac{1}{2}$ times in length of head; mouth extending to below anterior third or centre of eye; no barbels; naked space between præoperculum and suborbitals less than $\frac{1}{2}$ width of third suborbital. Gill-rakers very short and few. Dorsal III 9, originating at equal distance from anterior border or centre of eye and from caudal, second half of its base above anal; anterior rays longest, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal III 13–14, anterior rays much longer than posterior, a little longer than dorsals, forming a rounded lobe. Pectoral pointed, shorter than head, not reaching ventral. Caudal forked. Caudal peduncle twice as long as deep. Scales with very numerous radiating striæ, 55–60 $\frac{10\frac{1}{2}-11\frac{1}{2}}{7\frac{1}{2}}$, 3 between lateral line and ventral, 16–18 round caudal peduncle. Silvery, brownish on the back; more or less distinct dark vertical bars on the side of the body, 10 or 11 in number; dorsal blackish at the end.

Total length 160 millim.

Lake Tanganyika.

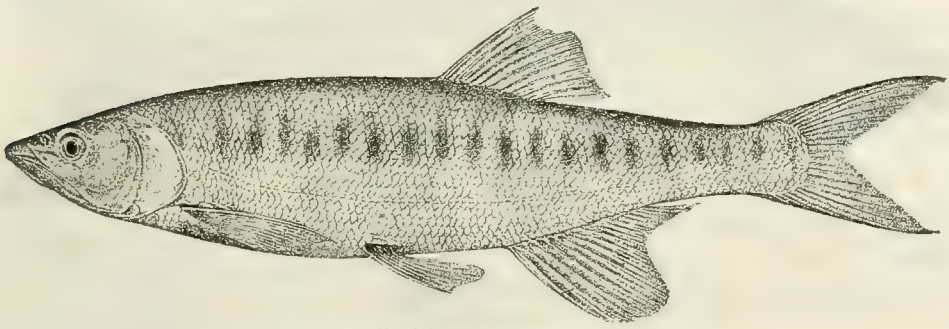
1–4. Types.	North end of L. Tanganyika.	Prof. J. E. S. Moore (C.).
5–6. Ad. & hgr.	Sumbu.	Dr. W. A. Cunnington (C.).

The specimens from Lake Rukwa briefly noticed under the name of *B. moorii* by Hilgendorf and Pappenheim, Sitzb. Ges. naturf. Fr. Berl. 1903, p. 270, perhaps belong to a distinct species.

16. BARILIUS TANGANICÆ.

Boulenger, Ann. & Mag. N. H. (7) vi. 1900, p. 480, Poiss. Bass. Congo, p. 235 (1901), and Trans. Zool. Soc. xvi. 1901, p. 146, pl. xiv. fig. 3.

Fig. 182.



Barilius tanganicæ.
Type (Tr. Z. S. 1901). $\frac{1}{2}$.

Depth of body equal to length of head, $4\frac{1}{4}$ times in total length. Head a little over twice as long as broad, with straight upper profile;

snout very pointed, not projecting beyond mouth, $1\frac{1}{2}$ diameters of eye, which is $5\frac{1}{3}$ times in length of head; interorbital width $3\frac{1}{3}$ times in length of head; mouth extending to below posterior border of eye; no barbels; naked space between præoperculum and suborbitals about $\frac{1}{3}$ width of third suborbital. Gill-rakers short, 10 on lower part of anterior arch. Dorsal III 10, originating midway between occiput and caudal, posterior third above anal; anterior rays longest, a little more than $\frac{1}{2}$ length of head. Anal III 17, strongly notched, with rounded anterior lobe, longest rays $\frac{2}{3}$ length of head. Pectoral pointed, $\frac{3}{4}$ length of head, not reaching ventral. Caudal forked. Caudal peduncle a little over twice as long as deep. Scales with numerous radiating striæ, 82 $\frac{13\frac{1}{2}}{7\frac{1}{2}}$, 4 between lateral line and ventral, 26 round caudal peduncle. Silvery, olive on the back; 16 or 17 blackish vertical bars on each side of the body.

Total length 260 millim.

Lake Tanganyika.

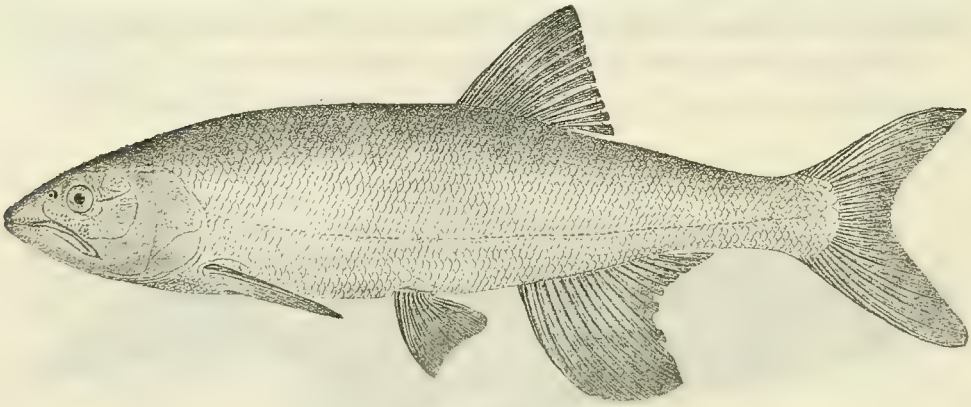
1. Type. North end of Tanganyika. Prof. J. E. S. Moore (C.).

17. BARILIUS MICROLEPIS.

Pelotrophus microlepis, Günth. Proc. Zool. Soc. 1864, p. 314, and Cat. Fish. vii. p. 320, fig. (1868).

Barilius microlepis, Bouleng. Ann. Mus. Congo, Zool. i. p. 102 (1899).

Fig. 183.



Barilius microlepis.
L. Nyassa. $\frac{1}{3}$.

Depth of body 4 to 5 times in total length, length of head $3\frac{1}{2}$ to 4 times. Head twice as long as broad, with nearly straight upper profile; snout pointed, not projecting beyond mouth, as long as eye in young, at

least twice as long as eye in adult; eye 4 (young) to 8 times in length of head; interorbital width about 3 times in length of head; mouth extending to below centre or posterior border of eye; no barbels; naked space between præoperculum and suborbitals about $\frac{1}{3}$ width of third suborbital. Gill-rakers short, 9 or 10 on lower part of anterior arch. Dorsal III 9–10, originating midway between occiput and caudal, posterior third above anal; anterior rays longest, about $\frac{2}{3}$ length of head. Anal III 16–17, strongly notched, with produced anterior lobe, longest rays $\frac{2}{3}$ to $\frac{3}{4}$ length of head (shorter in young). Pectoral pointed, about $\frac{3}{4}$ length of head, not reaching ventral. Caudal forked. Caudal peduncle 2 to $2\frac{1}{2}$ times as long as deep. Scales with numerous radiating striæ, 80–88 $\frac{13\frac{1}{2}-14\frac{1}{2}}{8\frac{1}{2}}$, 5 between lateral line and ventral, 26–28 round caudal peduncle. Males with small conical nuptial tubercles (or their scars) on snout and anal fin, and, very crowded, on lower jaw. Silvery, olive on the back; no markings; fins brown.

Total length 470 millim.

Lake Nyassa.

1, 2. Skins, types.	L. Nyassa.	Sir J. Kirk (P.).
3. Ad.	,,	Prof. J. E. S. Moore (C.).
4–6. Ad.	,,	Capt. E. L. Rhoades (P.).
7–14. Yg.	Between Kondowe and Karonga.	Sir H. H. Johnston (P.).

9. ENGRAULICYPRIS *.

Günth. Proc. Zool. Soc. 1893, p. 626.

Neobola, Vincig. Ann. Mus. Genova, (2) xv. 1895, p. 56; Bouleng. Proc. Zool. Soc. 1903, ii. p. 332, and Fish. Nile, p. 268 (1907).

Body strongly compressed, but belly not keeled, covered with moderately large scales. Lateral line low down, following the ventral outline of the body and running along the lower part of the caudal peduncle. Mouth moderate or large, oblique, without lips; no barbels. Suborbitals large, covering the cheek. Gill-membranes narrowly united to the isthmus. Dorsal fin without ossified ray, with 9 to 11 rays, 7 or 8 of which are branched, originating above or slightly before or behind the vertical of the origin of the anal. Anal fin with 13 to 20 rays. A scaly process at the base of the ventral fin. Pharyngeal teeth conical, hooked, in two series (3, 5—5, 3).

Nile and Eastern parts of Tropical Africa.

* This genus has appeared under the name of *Neobola* in the synopsis of the genera as given in the first volume, p. 300.

Synopsis of the Species.

I. Anal 13–15, its origin below or a little further back than that of dorsal.

L. l. 48–52; mouth not extending quite to below anterior border of eye; depth of body 6–7 times in total length . . . . . 1. *E. sardella*, Gthr., p. 210.

L. l. 50–52; mouth extending to below anterior third of eye; depth of body $4\frac{1}{2}$ times in total length . . . . . 2. *E. brevianalis*, Blgr., p. 211.

II. Anal 17–19, its origin below or slightly further back than that of dorsal.

L. l. 48–52; mouth extending to below anterior border of eye . . . . . 3. *E. argenteus*, Pellegr., p. 212.

L. l. 40–45; mouth extending to beyond vertical of anterior border of eye . . . . . 4. *E. bottegi*, Vincig., p. 213.

III. Anal 20, originating in advance of dorsal.

L. l. 37; mouth extending to below anterior border of eye . . . . . 5. *E. minutus*, Blgr., p. 213.

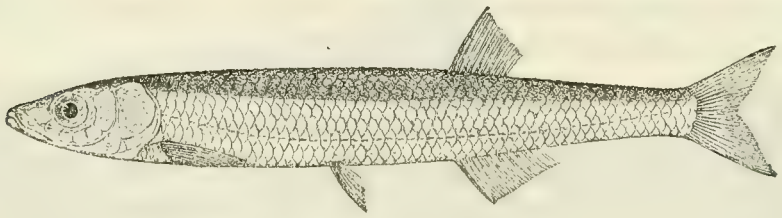
1. ENGRAULICYPRIS SARDELLA.

Barilius sardella, Günth. Cat. Fish. vii. p. 292 (1868); Boulenger. Ann. Mus. Congo, Zool. i. p. 103 (1899).

Engraulicypris pinguis, Günth. Proc. Zool. Soc. 1893, p. 627, fig.

Depth of body 6 to 7 times in total length, length of head 4 to $4\frac{1}{2}$ times. Head about $2\frac{1}{2}$ times as long as broad; snout obtuse, as long as

Fig. 184.



Engraulicypris sardella.
L. Nyassa.

or a little longer than eye; chin projecting a little beyond snout; eye $3\frac{1}{3}$ to 4 times in length of head and greater than interorbital width; mouth not extending quite to below anterior border of eye; no naked space on cheek. Gill-rakers moderately long, close-set, about 30 on lower part of anterior arch. Dorsal II 9, originating above or a little in advance of anal, its distance from end of snout $2\frac{1}{2}$ to 3 times its distance from caudal; first branched ray longest, about $\frac{1}{2}$ length of head. Anal III

10–11, longest ray about $\frac{2}{5}$ length of head. Pectoral obtusely pointed, $\frac{3}{5}$ length of head, widely separated from ventral. Caudal forked. Caudal peduncle $2\frac{1}{2}$ to 3 times as long as deep. Scales 48–52 $\frac{7\frac{1}{2}}{2\frac{1}{2}}$, 1 between lateral line and ventral, 12 round caudal peduncle. Silvery, steel-blue on the back; fins white.

Total length 100 millim.

Lake Nyassa and Upper Shiré.

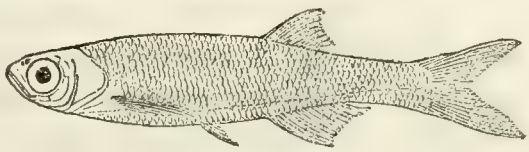
1. Type.	Upper Shiré.	Dr. Livingstone (C.); Earl Russell (P.).
2–3. Types of *E. pinguis*.	L. Nyassa.	J. A. Williams, Esq. (C.).
4–13. Ad. & hgr.	„	Capt. E. L. Rhoades (P.).

2. ENGRAULICYPRIS BREVIANALIS.

Neobola brevianalis, Bouleng. Ann. Natal Mus. i. 1908, p. 231, fig.

Depth of body about $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Head twice as long as broad; snout obtuse, not projecting beyond mouth, shorter than eye, which is 3 or $3\frac{1}{4}$ times in length of head and equals interorbital width; mouth extending to below anterior third of eye; suborbital bones covering greater part of cheek. Gill-rakers moderately long, about 15 on lower part of anterior arch. Dorsal II 7, its origin slightly in advance of that of anal; its distance from end of snout $2\frac{1}{4}$ times its distance from caudal; first branched ray longest, about $\frac{2}{3}$ length of head. Anal II 12–13. Pectoral acutely

Fig. 185.



Engraulicypris brevianalis.
Type (Ann. Natal Mus.). × 2.

pointed, as long as head, reaching ventral. Caudal deeply forked. Caudal peduncle $1\frac{2}{3}$ times as long as deep. Scales 50–52 $\frac{10\frac{1}{2}}{3\frac{1}{2}}$, 1 between lateral line and ventral, 16 round caudal peduncle. Yellowish, with a silvery lateral band; fins white.

Total length 50 millim.

Zululand, Transvaal.

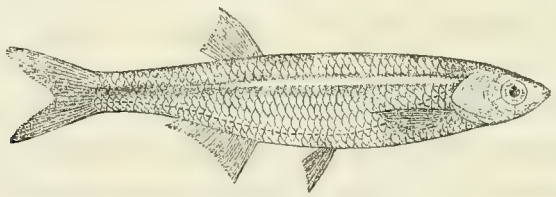
1. Type.	Mkuzi R., Zululand.	Dr. E. Warren (P.).
2–4. Ad. & hgr.	Devaars R., Transvaal.	Dr. J. D. F. Gilchrist (P.).

3. ENGRAULICYPRIS ARGENTEUS.

Neobola argentea, Pellegr. Bull. Soc. Zool. France, 1904, p. 184, and Mém. Soc. Zool. France, xvii. 1905, p. 178, fig. ; Bouleng. Fish. Nile, p. 268, pl. xlvi. fig. 5 (1907).

Depth of body $4\frac{1}{4}$ to $4\frac{3}{4}$ times in total length, length of head $3\frac{3}{4}$ to $4\frac{1}{3}$ times. Head about twice as long as broad; snout acutely pointed, not projecting beyond mouth, slightly shorter than diameter of eye, which is nearly 3 times in length of head and equals interorbital width ; mouth extending to below anterior border of eye ; suborbitals covering greater part of cheek. Gill-rakers moderately long, 16 on lower part of anterior arch. Dorsal II 7, its origin corresponding to or slightly in advance of

Fig. 186.



Engraulicypris argenteus.
Type (F. N.).

that of the anal, nearly twice as far from end of snout as from base of caudal ; first branched ray longest, about $\frac{2}{3}$ length of head. Anal II 15–16. Pectoral acutely pointed, a little shorter than head, not extending to ventral. Caudal deeply forked. Caudal peduncle twice as long as deep. Scales 48–52 $\frac{8\frac{1}{2}-9\frac{1}{2}}{2\frac{1}{2}}$, 1 between lateral line and ventral, 16 round caudal peduncle. Yellowish brown above, silvery on the sides ; caudal fin bright yellow, the other fins white or greyish.

Total length 60 millim.

Lake Victoria.—Types in Paris Museum.

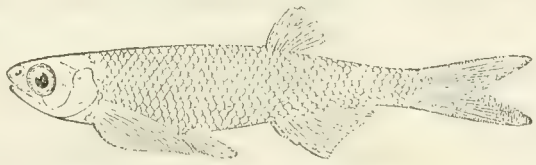
1–2. Types.	Kavirondo Bay.	M. Alluaud (C.) ; Paris Museum (E.).
3. Ad.	,,	,,
4. Ad.	Kisumu Bay, Kavirondo.	A. Blayney Percival, Esq. (P.).
5–10. Ad.	Bunjako.	Mr. E. Degen (C.).
11. Ad.	Bugala, Sesse Ids.	Dr. E. Bayon (C.) ; Genoa Museum (P.).

4. EUGRAULICYPRIS BOTTEGI.

Neobola bottegi, Vincig. Ann. Mus. Genova, (2) xv. 1895, p. 57, pl. v. fig. 1, and xvii. pp. 31, 364, and xix. 1898, p. 261 ; Bouleng. Proc. Zool. Soc. 1903, ii. p. 332, and Fish. Nile, p. 268 (1907).

Depth of body 5 to 6 times in total length, length of head 4 to $4\frac{3}{4}$ times. Head $1\frac{2}{3}$ to 2 times as long as broad; snout pointed, not projecting beyond mouth, shorter than eye, which is nearly 3 times in length of head and equals interorbital width; mouth extending to below anterior fourth or anterior third of eye; suborbitals covering greater part of cheek. Gill-rakers few and very short. Dorsal II 7–8, its origin corresponding to or slightly in advance of that of the anal, about twice as far from end of snout as from caudal; first branched

Fig. 187.



Engraulicypris bottegi.
Type, after Vinciguerra (*l. c.*).

ray longest, about $\frac{2}{3}$ length of head. Anal II 15–17. Pectoral acutely pointed, usually reaching ventral. Caudal deeply forked. Caudal peduncle twice as long as deep. Scales 40–45 $\frac{6\frac{1}{2}-7\frac{1}{2}}{3\frac{1}{2}}$, 1 between lateral line and ventral, 14 round caudal peduncle. Yellowish brown above, silvery on the sides; fins colourless.

Total length 73 millim.

Somaliland, Southern Ethiopia, Omo River and Lake Rudolf.—Types in Genoa Museum.

1–3. Hgr.	Ganana R. at Lugh.		Capt. V. Bottego (C.); Genoa Museum (P.).
4–6. Ad. & hgr.	Wabbi R. (Webi Shebeli).		Prof. O. Neumann and Baron C. v. Erlanger (C.).
7–8. Ad.	Modjo R.	,,	,,
9–12. Ad.	Iraro R.	,,	,,
13–14. Ad. & hgr.	Omo R.		Prof. O. Neumann (C.).

5. ENGRAULICYPRIS MINUTUS.

Neobola minuta, Bouleng. Tr. Zool. Soc. xvii. 1906, p. 549, pl. xxxii. fig. 1.

Depth of body 6 times in total length, length of head 5 times. Snout pointed, not extending beyond mouth, shorter than eye, which is

$3\frac{1}{3}$ times in length of head and equals interorbital width; mouth extending to below anterior border of eye. Dorsal II 7, originating further back than anal, at equal distance from head and from caudal, longest ray about $\frac{1}{2}$ length of head. Anal II 18. Pectoral acutely pointed, as long as head, reaching root of ventral. Caudal deeply forked. Caudal peduncle twice as long as deep. Scales 37 $\frac{7\frac{1}{2}}{1\frac{1}{2}}$, 1 between

Fig. 188.

Engraulicypris minutus.
Type.

lateral line and ventral, 12 round caudal peduncle. Silvery, olive on the back.

Total length 26 millim.

Lake Tanganyika.

1–5. Types. Mbete. Dr. W. A. Cunnington (C.).

10. CHELÆTHIOPS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 101 (1899), Poiss. Bass. Congo, p. 236 (1901), and Fish. Nile, p. 271 (1907).

Body strongly compressed, the belly keeled between the pectoral fins, covered with rather large scales. Lateral line low down, following the ventral outline of the body and running along the lower part of the caudal peduncle. Mouth large, oblique, without lips; no barbels. Suborbitals large, covering the cheek. Gill-membranes narrowly united to the isthmus. Dorsal fin without ossified ray, with 9 or 10 rays, 7 of which are branched, originating behind the vertical of the origin of the anal. Anal with 19 or 20 rays. Pectoral fins elongate, in contact or narrowly separated on the mid-ventral line. A scaly process at the base of the ventral fins. Pharyngeal teeth conical, hooked, in two series (3, 5—5, 3).

Nile, Webi Shebeli, and Congo.

Two species:—

Depth of body 4–5 times in total length; dorsal above anterior half of anal . . . . . 1. *C. bibie*, Joann., p. 215.

Depth of body $4\frac{1}{2}$–$5\frac{1}{2}$ times in total length; dorsal above middle of anal . . . . . 2. *C. elongatus*, Blgr., p. 216.

1. CHELÆTHIOPS BIBIE.

Leuciscus bibie, Joannis, Mag. de Zool. 1835, iv. pl. iv.

Pelecus bibie, Heckel, Russegger's Reise Egypt. iii. p. 329 (1846).

Barilius bibie, Günther, Petherick's Trav. ii. p. 264 (1869).

Chelæthiops bibie, Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 263; Werner, Sitzb. Ak. Wien, cxv. i. 1906, p. 1097 *; Bouleng. Fish. Nile, p. 271, pl. xlviii. fig. 5 (1907).

Depth of body 4 to 5 times in total length, length of head 4 to $4\frac{2}{5}$

Fig. 189.

Chelæthiops bibie.
Assuan.

times. Head 2 to $2\frac{1}{3}$ times as long as broad; snout acutely pointed, slightly projecting beyond mouth, not longer than eye, which is contained 3 to 4 times in length of head; interorbital width equal to diameter of eye or a little greater; mouth extending to below centre of eye; suborbital bones nearly entirely covering cheek, second very narrow and extending to below centre of eye. Gill-rakers few and very short. Dorsal III 7, above anterior half of anal, twice as far from occiput as from base of caudal; first branched ray longest, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal III 16–19; first branched ray longest and as long as or a little shorter than that of dorsal. Pectoral acutely pointed, longer than head, extending beyond root of ventral. Caudal deeply forked. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Scales with radiating striæ, 37–41 $\frac{5\frac{1}{2}-6\frac{1}{2}}{2\frac{1}{2}}$, 1–$1\frac{1}{2}$ between lateral line and ventral, 12 round caudal peduncle. Uniform silvery, brownish olive on the back; fins yellowish white.

Total length 55 millim.

Lower Nile to Bahr-el-Gebel; Webi Shebeli.—Type apparently lost.

1–2. Ad.	Barrage near Kalioub, N. of Cairo.	Dr. F. Werner (P.
3–9. Hgr.	Near Luxor.	L. Loat, Esq. (C.).
10–13. Ad.	Between Luxor and Assuan.	,,

* Not the figure, which, through an oversight, is taken from a *Barilius niloticus*.

14. Ad.	Assuan.	L. Loat, Esq. (C.).
15. Ad.	Near Kermeh, Nubia.	,,
16–115. Ad. & hgr.	Omdurman.	,,
116. Skel.	,,	,,
117. Hgr.	Kaka, White Nile.	,,
118–121. Hgr.	Lake No, ,,	,,
122–141, 142–143. Ad. & hgr.	Gondokoro.	,,
144. Ad.	Imi, Webi Shebeli, Somaliland.	Paris Museum (E.).

2. CHELÆTHIOPS ELONGATUS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 101, pl. xl. fig. 5 (1899), and Poiss. Bass. Congo, p. 236 (1901).

Closely allied to the preceding, but dorsal inserted above middle of anal. Depth of body $4\frac{1}{2}$ to $5\frac{1}{2}$ times in total length. Anal III 16–18. Scales 36–38 $\frac{5\frac{1}{2}}{2\frac{1}{2}}$.

Total length 60 millim.

Upper Congo.—Type in Congo Museum, Tervueren.

Fig. 190.

Chelæthiops elongatus.
Type (A. M. C.).

1–2. Ad	Lindi R.	M. M. Storms (C.); Brussels Museum (P.).
3. Ad.	Bumba R. at Assobam, S. Cameroon.	G. L. Bates, Esq. (C.).
4. Ad.	Banzyville, Ubanghi.	Capt. Royaux (C.).
5. Ad.	Aruwimi R.	R. B. Woosnam, Esq. (C.); Ruwenzori Expedition.

11. NEMACHILUS.

Cobitis, part., Linn. Syst. Nat. i. p. 499 (1766); Cuv. & Val. Hist. Poiss. xviii. p. 1 (1846).

Nemachilus, Van Hass. Algem. Konst- en Letterb. ii. 1823, p. 133; Günth. Cat. Fish. vii. p. 347 (1868); Herzenst. Wiss. Res. Przewalski Reis., Zool. iii. Fische, p. 1 (1888); Bouleng. Fish. Nile, p. 274 (1907).

Diplophysa, Kessler, in Fedschenko's Reise, ii. p. 57 (1874).

Body elongate and feebly compressed, naked or with minute scales.

Lateral line along the middle of the side. Mouth small, inferior, surrounded by a circular lip; three pairs of barbels, two on the snout and one at the sides of the mouth. Suborbitals small, without spine. Gill-openings restricted to the sides. Dorsal fin short, with 10 to 17 rays, opposite to the ventrals or just behind the vertical of the latter. Anal fin short, with 7 to 9 rays. Pharyngeal teeth small, pointed and more or less distinctly hooked, in a single series. Air-bladder entirely or partially enclosed in a bony capsule open at the sides.

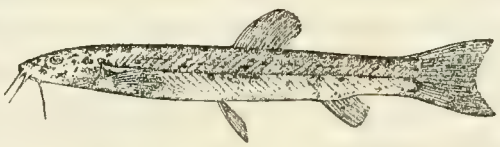
Europe and Asia. A single species in Africa.

1. NEMACHILUS ABYSSINICUS.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 437, and Fish. Nile, p. 274, pl. xlviii. fig. 6 (1907).

Depth of body 7 times in total length, length of head 5 times. Head

Fig. 191.



Nemachilus abyssinicus.
Type. × $1\frac{1}{2}$.

feebly compressed behind, twice as long as broad. Snout a little shorter than postorbital part of head, a little depressed; eye $5\frac{1}{2}$ times in length of head, $\frac{3}{5}$ interorbital width; longest barbels twice diameter of eye. Dorsal 10, a little nearer caudal than occiput, originating immediately behind vertical of root of ventral, middle rays longest, nearly $\frac{4}{5}$ length of head. Anal 9. Caudal feebly emarginate. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Yellowish brown, with irregular dark spots, and a series of ten large transverse dark spots along the back; a small round black spot on the dorsal fin; caudal fin with dark spots.

Total length 40 millim.

Lake Tsana, Abyssinia.

1. Type.	Bahardar.	Mr. E. Degen (C.).

The Gold-fish (*Cyprinus auratus*, L.), a native of Asia, has been introduced and has become acclimatized in North-west and South Africa, in Madagascar, and in Mauritius. It is easily distinguished from all the indigenous African Cyprinids by its long dorsal fin with at least 15 branched rays, and by the last simple ray of both dorsal and anal being serrated. When in a wild state the fish loses the bright coloration whence its specific name is derived.

Fam. 3. SILURIDÆ.

Mouth non-protractile, bordered by the præmaxillaries and the maxillaries, or by the præmaxillaries only, the maxillaries being often rudimentary and supporting the base of a barbel; jaws usually toothed. Parietal bones usually confluent with the supraoccipital; symplectic and suboperculum absent. Pharyngeal bones normal, with small teeth. Some or all of the ribs attached to the lower surface of long parapophyses; epipleurals absent. Pectoral fins inserted very low down, folding like the ventrals, often armed, like the dorsal, with a strong bony spine. Body naked or with bony plates. An adipose dorsal fin often present. One to four pairs of barbels.

Fresh-waters of all temperate and tropical parts of the world and coasts within the tropics and round South Africa.

Synopsis of the Genera.

I. Clariinæ.—Dorsal and anal fins very long, without spine; gill-membranes free from the isthmus; air-bladder small, bilobed, disposed transversely and partially enclosed in a bony sheath.

A. Dorsal fin single, formed entirely of articulated rays.

1. Eye with a free border; pectoral and ventral fins well developed.

Sides of head protected by bony shields . . 1. *Clarias*, Gron., p. 221.
Sides of head naked, only the postorbital shield being present . . . . . 2. *Allabenchelys*, Blgr., p. 266.

2. Eye without free border; sides of head naked.

Postorbital shield present; pectoral fins well developed, ventrals small . . . . . 3. *Clariallabes*, Blgr., p. 268.
Postorbital shield absent; pectoral and ventral fins very small . . . . . 4. *Gymnallabes*, Gthr., p. 270.
Postorbital shield absent; pectoral fins rudimentary or absent, ventrals absent. . . 5. *Channallabes*, Gthr., p. 271.

B. Dorsal fin divided into two, the posterior portion adipose.

Sides of head protected by bony shields; adipose dorsal fin large and supported by bony rays (the produced neural spines) . 6. *Heterobranchus*, Geoffr., p. 272.

Sides of head naked, only the postorbital shield being present; adipose dorsal fin small . 7. *Dinotopterus*, Blgr., p. 276.

II. Plotosinæ.—A short dorsal fin in front, with a pungent spine; a second dorsal and a long anal, united with the caudal; gill-membranes free from isthmus; air-bladder moderately large, free.

8. *Plotosus*, Lacep., p. 278.

III. Silurinæ.—Dorsal fin very short or absent; adipose dorsal fin very small; anal fin much elongate; gill-membranes free from isthmus.

A. Dorsal fin with a spine.

Adipose fin present . . . . . 9. *Eutropius*, M. & T., p. 279.

Adipose fin absent . . . . . 10. *Schilbe*, Cuv., p. 293.

B. Dorsal fin without spine; adipose fin present.

Teeth absent . . . . . 11. *Siluranodon*, Blkr., p. 298.

C. No rayed dorsal fin.

Adipose fin present . . . . . 12. *Physailia*, Blgr., p. 300.

Adipose fin absent . . . . . 13. *Parailia*, Blgr., p. 302.

IV. Bagrinæ.—Dorsal fin short; adipose fin present, or transformed into a second rayed fin; anal fin short; gill-membranes free or very narrowly attached to isthmus.

A. Gill-membranes more or less notched in the middle; nostrils widely separated from each other.

1. Nasal barbel present*.

a. Teeth on the palate.

Dorsal fin with 8–11 branched rays; adipose fin very large . . . . . 14. *Bagrus*, Cuv., p. 304.

Dorsal fin with 5–6 branched rays; adipose fin moderate or small . . . . . 15. *Chrysichthys*, Blkr., p. 314.

Dorsal fin with 6 branched rays; second dorsal fin rayed, with an anterior spine in the adult . . . . . 16. *Clarotes*, Kner, p. 341.

b. Palate toothless.

Dorsal with 6–7 branched rays . . . . . 17. *Gephyroglanis*, Blgr., p. 344.

2. Nasal barbel absent.

a. Anterior nostril on upper surface of snout; dorsal with 5–7 branched rays.

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* Sometimes very minute in *Gephyroglanis*.

a. Teeth on the palate.

Maxillary barbel terminating in a leaf-like expansion . . . . . 18. *Phyllonemus*, Blgr., p. 349.

β. Palate toothless.

Dorsal and pectoral fins with a pungent spine. 19. *Leptoglanis*, Blgr., p. 350.

Dorsal and pectoral fins without spine; posterior nostril distant from the eye . . . 20. *Amphilius*, Gthr., p. 353.

Dorsal and pectoral fins without spine; posterior nostril close to the eye . . . . 21. *Paramphilius*, Pellegr., p. 363.

b. Anterior nostril on upper lip, tubular; palate toothless.

Dorsal with 7 branched rays; gill-membranes deeply notched; eye without free border. 22. *Parauchenoglanis*, Blgr., p. 364.

Dorsal with 7–8 branched rays; gill-membranes feebly notched; eye with free border . . . . . 23. *Auchenoglanis*, Gthr., p. 366.

Dorsal with 14–15 branched rays; gill-membranes feebly notched; eye without free border . . . . . 24. *Notoglanidium*, Gthr., p. 377.

B. Gill-membranes not notched, forming a straight transverse fold or a very open angle; nasal barbels absent; dorsal with 6–7 branched rays.

Palate toothless; nostrils rather widely separated from each other . . . . . 25. *Ancharius*, Stdr., p. 378.

Teeth on vomer and pterygoids; nostrils close together . . . . . 26. *Galeichthys*, C. & V., p. 381.

Teeth on pterygoids; nostrils close together . 27. *Arius*, C. & V., p. 383.

V. Doradinæ.—Dorsal fin short; a second dorsal fin, adipose or rayed; anal short; gill-membranes more or less grown to isthmus.

A. Second dorsal fin adipose, without rays; movable, slender, curved teeth in the mandible.

1. Mandibular barbels branched; præmaxillary teeth conical, not movable.

Eye with free border . . . . . 28. *Synodontis*, Cuv., p. 391.

Eye without free border . . . . . 29. *Microsynodontis*, Blgr., p. 476.

2. None of the barbels branched; mouth with a sucker-like papillose circular lip.

Præmaxillary teeth conical, not movable, mandibular pointed; eye without free border. 30. *Chiloglanis*, Peters, p. 478.

Præmaxillary teeth pointed, curved, mandibular with truncate or bicuspid crowns; eye with free border . . . . . 31. *Euchilichthys*, Blgr., p. 486.

Præmaxillary and mandibular teeth movable, with truncate crowns; eye with free border 32. *Atopochilus*, Sauv., p. 490.

B. Second dorsal fin more or less distinctly rayed, or with a spine ; mandibular teeth very small or absent ; eye without free border.

1. Mandibular barbels branched ; body moderately elongate, naked ; second dorsal with articulated rays.

Posterior nostril very large . . . . . 33. *Mochocus*, Joannis, p. 492.

2. Barbels simple ; body much elongate, with very slender caudal peduncle.

a. Præmaxillary teeth present ; mandibular teeth few or absent ; no spine to the second dorsal fin.

Body and tail naked . . . . . 34. *Doumea*, Sauv., p. 496.
Body and tail with bony scutes . . . . . 35. *Phractura*, Blgr., p. 498.

b. Præmaxillary and mandibular teeth present; body and tail with bony scutes.

Second dorsal without spine . . . . . 36. *Paraphractura*, Blgr., p. 506.
Second dorsal with a spine . . . . . 37. *Trachyglanis*, Blgr., p. 507.

c. No teeth ; body and tail with bony scutes ; second dorsal with a spine.

Dorsal fin in advance of ventrals . . . . . 38. *Belonoglanis*, Blgr., p. 508.
Dorsal fin above ventrals . . . . . 39. *Andersonia*, Blgr., p. 510.

VI. Malopterurinæ.—No rayed dorsal fin; adipose fin present ; anal short ; gill-membranes grown to isthmus . . . 40. *Malopterurus*, Lacep., p. 511.

1. CLARIAS.

Gronov. Zoophyl. p. 100 (1781) ; Günth. Cat. Fish. v. p. 248 (1864) ; Bouleng. Poiss. Bass. Congo, p. 248 (1901), Fish. Nile, p. 278 (1907), and Proc. Zool. Soc. 1907, p. 1063.

Macropteronotus, part., Lacep. Hist. Poiss. v. p. 84 (1803).

Body elongate, with long dorsal and anal fins composed entirely of soft rays, extending to or nearly to the caudal fin. Pectoral fin with the outer ray spinous ; ventral fin with 6 rays. Head much depressed, the upper and lateral parts osseous, forming a casque ; four pairs of barbels—one nasal, one maxillary, two mandibulars. Eye small, with free orbital margin. Jaws with a band of villiform teeth ; a band of villiform or granular teeth on the vomer. Gill-membranes free from the isthmus, deeply notched in the middle. A dendritic, accessory branchial organ attached to the second and fourth branchial arches and received in a cavity behind the gill-cavity proper. Air-bladder small, bilobed, disposed transversely and partially enclosed in a bony sheath formed by the transverse processes of the fourth and fifth vertebræ.

Vertebræ 60–78. 9 branchiostegal rays. Males with a long, conical anal papilla.

South-eastern Asia, Syria, Africa.

Synopsis of the Species.

I. Ventral fins midway between end of snout and root of caudal, or a little nearer (less than $\frac{1}{3}$) the former ; nasal barbel shorter than head *.

A. Maxillary barbel not or but little longer than head, except in the very young ; at least 20 gill-rakers on anterior arch.

1. Length of head 3 to $3\frac{3}{4}$ times in total length † ; vomerine teeth forming an uninterrupted or scarcely interrupted band or patch ; distance between occipital process and dorsal fin at least $3\frac{1}{2}$ times in length of head.

a. Head granulate above (under the skin), except in the very young ; D. 62–82, A. 46–65.

a. Vomerine teeth mostly pointed or granular-subconical, forming a band which is not broader than the band of præmaxillary teeth ; distance between occipital process and dorsal fin $3\frac{1}{2}$ to 7 times in length of head.

20–27 gill-rakers on anterior arch ; distance between dorsal and caudal 1–$2\frac{1}{2}$ diameters of eye	1. *C. anguillaris*, L., p. 226.
25 (in very young)–80 gill-rakers on anterior arch ; distance between dorsal and caudal $1\frac{1}{2}$–2 diameters of eye	2. *C. gariepinus*, Burch., p. 228.
87 gill-rakers on anterior arch ; distance between dorsal and caudal 3 diameters of eye.	3. *C. moorii*, Blgr., p. 230.

β. Vomerine teeth all or mostly granular, forming a crescentic band with or without posterior process.

30–40 gill-rakers on anterior arch ; band of vomerine teeth as broad as or a little narrower than band of præmaxillary teeth ; head not more than $1\frac{2}{3}$ times as long as broad, 4–7 times its distance from dorsal.	4. *C. senegalensis*, C. & V., p. 231.
25 (in very young)–100 gill-rakers on anterior arch ; band of vomerine teeth nearly 1 to $1\frac{1}{2}$ times as broad as præmaxillary band ; head not more than $1\frac{2}{3}$ times as long as broad, 4–7 times its distance from dorsal.	5. *C. mossambicus*, Peters, p. 232.
90 gill-rakers on anterior arch ; band of vomerine teeth as broad as præmaxillary band ; head $1\frac{5}{7}$ times as long as broad, 9 times its distance from dorsal	6. *C. vinciguerræ*, Blgr., p. 234.

* The head is measured to the extremity of the occipital process.

† Caudal fin not included.

35 (in very young)–135 gill-rakers on anterior arch; band of vomerine teeth $1\frac{1}{3}$ to $2\frac{1}{2}$ times width of præmaxillary band; head not more than $1\frac{2}{3}$ times as long as broad, 4–7 times its distance from dorsal . . . 7. *C. lazera*, C. & V., p. 235.

γ. Vomerine teeth granular, forming a large semi-elliptic patch, squarely truncate behind, its longitudinal diameter 3 times that of præmaxillary band; 35 gill-rakers on anterior arch; distance between dorsal and caudal $\frac{1}{4}$ length of head . . 8. *C. mellandi*, Blgr., p. 238.

b. Head smooth above; D. 78–85, A. 60–70; vomerine teeth granular, forming a band which is not broader than præmaxillary band; 45–70 gill-rakers on anterior arch; distance between dorsal and caudal not greater than diameter of eye . . . . 9. *C. tsanensis*, Blgr., p. 239.

2. Length of head 4 times in total length; vomerine teeth mostly granular, forming a band which is a little narrower than the præmaxillary band and interrupted in the middle; head granulate above; D. 63–72, A. 50–52; distance between occipital process and dorsal $\frac{2}{7}$–$\frac{1}{3}$ length of head; 55 gill-rakers on anterior arch . . . . . 10. *C. capensis*, C. & V., p. 240.

B. Maxillary barbel $1\frac{1}{3}$ length of head; 12 gill-rakers on anterior arch; head feebly granulate above, $1\frac{1}{4}$ as long as broad; vomerine teeth conical; D. 65–70, A. 56–62 . . . . . 11. *C. platycephalus*, Blgr., p. 241.

II. Ventral fins $1\frac{1}{4}$ to 2 times as distant from root of caudal as from end of snout, *or* nasal barbel at least as long as head; head smooth or very feebly granulate above; less than 30 gill-rakers on anterior arch.

A. Dorsal separated from caudal by a space at least equal to diameter of eye; nasal barbel shorter than head.

1. Head $1\frac{1}{3}$ to $1\frac{2}{5}$ times as long as broad, its length $3\frac{1}{2}$–$3\frac{3}{4}$ times in total length; distance between occipital

process and dorsal $\frac{1}{3}$ length of head; maxillary barbel nearly as long as head; 20–23 gill-rakers on anterior arch; D. 85–95, A. 65–75 . . . 12. *C. jaensis*, Blgr., p. 242.

2. Head not more than $1\frac{1}{3}$ times as long as broad.

a. Maxillary barbel shorter than head; head $1\frac{1}{5}$–$1\frac{1}{3}$ as long as broad, its length 4–5 times in total length; distance between occipital process and dorsal $\frac{2}{5}$–$\frac{3}{5}$ length of head; 10–13 gill-rakers on anterior arch; D. 65–78, A. 57–64.

Maxillary barbel $\frac{3}{5}$–$\frac{3}{4}$ length of head, not reaching beyond gill-opening . . . . 13. *C. carsonii*, Blgr., p. 243.

Maxillary barbel $\frac{5}{6}$ length of head, reaching a little beyond base of pectoral . . . . 14. *C. poensis*, Blgr., p. 244.

b. Maxillary barbel as long as or a little longer than head; distance between occipital process and dorsal $\frac{2}{5}$–$\frac{2}{3}$ length of head, which is 4–5 times in total length.

Head $1\frac{1}{3}$ as long as broad; D. 75–84, A. 60–70; 10 gill-rakers on anterior arch . . 15. *C. submarginatus*, Peters, p. 245.

Head $1\frac{1}{4}$–$1\frac{1}{3}$ as long as broad; D. 70–72, A. 50–58; 13–15 gill-rakers on anterior arch . . . . . 16. *C. liocephalus*, Blgr., p. 246.

Head slightly longer than broad; D. 58–60, A. 40–42; 20 gill-rakers on anterior arch. 17. *C. breviceps*, Blgr., p. 247.

c. Maxillary barbel once and $\frac{1}{2}$ to twice as long as head; head $1\frac{1}{5}$–$1\frac{1}{3}$ as long as broad; 12–15 gill-rakers on anterior arch.

Length of head 4–$4\frac{1}{2}$ times in total; distance between occipital process and dorsal $\frac{1}{3}$–$\frac{1}{2}$ length of head; distance between ventrals and caudal $1\frac{1}{3}$–$1\frac{2}{5}$ that between end of snout and ventrals; D. 70–80, A. 52–60. 18. *C. walkeri*, Gthr., p. 248.

Length of head 5–$5\frac{1}{2}$ times in total; distance between occipital process and dorsal $\frac{3}{5}$–$\frac{2}{3}$ length of head; distance between ventrals and caudal at least $1\frac{2}{3}$ that between end of snout and ventrals; D. 80, A. 70–73 . 19. *C. longior*, Blgr., p. 249.

B. Dorsal and anal in contact with or very narrowly separated from, but not adnate to the caudal; maxillary barbel longer than head.

1. Nasal barbel at least as long as head, which is $1\frac{1}{3}$–$1\frac{1}{2}$ times as long as broad; distance between occipital process and dorsal $\frac{1}{5}$–$\frac{1}{3}$ length of head.

a. Vomerine teeth conical or subgranular, in a crescentic band.

Length of head $3\frac{1}{2}$–$4\frac{1}{5}$ times in total; maxillary barbel $1\frac{1}{2}$–$1\frac{2}{3}$ length of head; 20–25 gill-rakers on anterior arch; D. 70–82, A. 55–63 . . . . . 20. *C. angolensis*, Stdr., p. 250.

Length of head 4–4¼ times in total; maxillary barbel 2–2½ length of head; 17–22 gill-rakers on anterior arch; D. 78–87, A. 55–67. 21. *C. bythipogon*, Sauv., p. 252.

Length of head 4–4½ times in total; maxillary barbel 1½–1⅔ length of head; 14–15 gill-rakers on anterior arch; D. 65–78, A. 55–62; occipital process much longer than broad . . . . . 22. *C. alluaudi*, Blgr., p. 253.

Length of head 4½–5 times in total; maxillary barbel 1⅓–2 length of head; 16–18 gill-rakers on anterior arch; D. 82–91, A. 68–72. 23. *C. werneri*, Blgr., p. 254.

b. Vomerine teeth granular, in a fan-shaped patch; length of head 4 times in total; maxillary barbel 1½ length of head; 16 gill-rakers on anterior arch; D. 80, A. 63 . . . . . 24. *C. macromystax*, Gthr., p. 256.

2. Nasal barbel shorter than head.

a. Length of head 3½–4½ times in total; distance between occipital process and dorsal ⅖–⅔ length of head; D. 60–72, A. 44–55.

Pectoral spine strongly serrated on both sides; 12–15 gill-rakers on anterior arch . . . 25. *C. dumerilii*, Stdr., p. 257.

Pectoral spine feebly serrated; 20 gill-rakers on anterior arch . . . . . 26. *C. liberiensis*, Stdr., p. 258.

b. Length of head 4⅔–5½ times in total; A. 68–80; 15–20 gill-rakers on anterior arch.

Head 1⅖–1½ as long as broad; nasal barbel ¾–⅘ length of head; D. 92–95 . . . . 27. *C. pachynema*, Blgr., p. 259.

Head 1¼–1⅓ as long as broad; nasal barbel ½–⅔ length of head; D. 79–87 . . . . 28. *C. læviceps*, Gill, p. 260.

C. Dorsal and anal embracing or adnate to base of caudal; maxillary barbel ⅘–1⅓ length of head.

1. Head 1¼–1⅓ times as long as broad.

Length of head 4 times in total; ventrals a little nearer end of snout than caudal; D. 55, A. 50; pectoral spine not serrated on outer side . . . . . 29. *C. buettikoferi*, Stdr., p. 261.

Length of head 5 times in total; distance between ventrals and caudal 1½ that between ventrals and end of snout; D. 80, A. 65; 15 gill-rakers on anterior arch; pectoral spine serrated on both sides . . 30. *C. amplexicauda*, Blgr., p. 261.

2. Head $1\frac{2}{5}$–$1\frac{1}{2}$ times as long as broad.
Length of head $4\frac{1}{2}$–$5\frac{1}{4}$ times in total, 3 times its distance from dorsal; distance between ventrals and caudal $1\frac{1}{2}$ that between ventrals and end of snout; maxillary barbel as long as or a little longer than head; D. 80–90, A. 67–73; 14 gill-rakers on anterior arch; pectoral spine feebly serrated on outer side . . . . 31. *C. theodoræ*, M. Web., p. 262.
Length of head 5 times in total, 3 times its distance from dorsal; distance between ventrals and caudal $1\frac{3}{4}$ that between ventrals and end of snout; maxillary barbel a little shorter than head; D. 83, A. 68; 20 gill-rakers on anterior arch; pectoral spine not serrated on outer side . . . 32. *C. fouloni*, Blgr., p. 263.
Length of head 5–6 times in total, $1\frac{1}{2}$–$1\frac{2}{3}$ its distance from dorsal; distance between ventrals and caudal $1\frac{2}{3}$ that between ventrals and end of snout; maxillary barbel a little longer than head; D. 89–93, A. 70–78; 8–10 gill-rakers on anterior arch; pectoral spine serrated on outer side . . . . . 33. *C. salæ*, Hubr., p. 264.

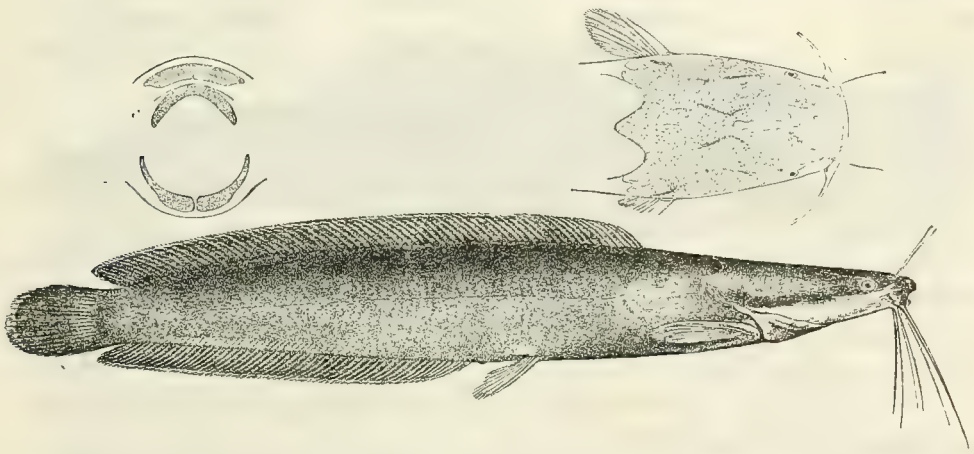
1. CLARIAS ANGUILLARIS.

Silurus anguillaris, Linn. in Hasselq. Reise Paläst. p. 415 (1762), and Syst. Nat. i. p. 502 (1766).
Macropteronotus charmuth, part., Lacep. Hist. Poiss. v. p. 85 (1803).
Macropteronotus anguillaris, part., Rüpp. Beschr. n. Fische Nil, p. 5 (1829).
Clarias hasselquistii, Cuv. & Val. Hist. Poiss. xv. p. 362, pl. cccexlvi. (1840).
Clarias anguillaris, Günth. Cat. Fish. v. p. 14 (1864); Peters, Reise Mossamb. iv. p. 36 (1868); Günth. Petherick's Trav. ii. p. 217 (1869); Panceri, Rend. Acc. Sc., Soc. R. Nap. xii. 1873, p. 110; Bouleng. Fish. Nile, p. 280, pl. xlix. (1907), and Proc. Zool. Soc. 1907, p. 1068.
Clarias parvimanus, Günth. opp. cit. pp. 15, 218.

Depth of body $5\frac{1}{3}$ to $7\frac{3}{4}$ times in total length, length of head 3 to $3\frac{3}{4}$ times. Head $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as broad, its upper surface coarsely granulate in the adult; occipital process angular; frontal fontanelle elliptical, sole-shaped or knife-shaped, 3 to 5 times as long as broad, $3\frac{1}{2}$ to 5 times in length of head; occipital fontanelle small, in advance of occipital process; eye 2 (very young) to $4\frac{1}{2}$ times in

length of snout, 3 to 9 times in interorbital width; width of mouth nearly equal to interorbital width; band of præmaxillary teeth $5\frac{1}{2}$ to 8 times as long as broad; vomerine teeth mostly conical, sometimes subgranular behind, forming a crescentic, continuous or narrowly interrupted band which is as broad as or narrower than præmaxillary band; nasal barbel $\frac{1}{4}$ to $\frac{2}{5}$ length of head ($\frac{1}{2}$ to $\frac{2}{3}$ in very young); maxillary barbel $\frac{3}{5}$ to $\frac{5}{6}$ length of head ($\frac{3}{4}$ to $1\frac{1}{5}$ times in very young), reaching gill-opening or extremity of pectoral spine; outer mandibular barbel $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as inner, which measures $\frac{1}{3}$ to $\frac{2}{5}$ length of head ($\frac{2}{3}$ to nearly once in very young). Gill-rakers rather short, 20 to 27 on anterior arch. Clavicles hidden under the skin. Dorsal 65–76, its distance from occipital process $\frac{1}{7}$ to $\frac{1}{4}$ length of head, its distance

Fig. 192.



Clarias anguillaris.
Cairo (F. N.). $\frac{1}{4}$.

from caudal 1 to $2\frac{1}{2}$ diameters of eye. Anal 53–62, narrowly separated from caudal. Pectoral $\frac{2}{5}$ to $\frac{1}{2}$ length of head, the spine serrated on the outer border and $\frac{1}{2}$ (young) to $\frac{2}{3}$ the length of the fin. Ventrals slightly nearer end of the snout than root of caudal. Caudal not quite half length of head. Upper parts olive or dark brown, uniform or with darker marblings, lower parts white; a more or less distinct dark band on each side of the lower surface of the head; fins dark, edged with yellow or orange, sometimes with small black spots.

Reaches a length of 750 millim.

Nile, Lake Victoria, Chad Basin.

1, 2–3. Yg.	Freshwater pool near Ghet-el-Nassara, L. Menzaleh.	L. Loat, Esq. (C.).
4. Hgr. (Type of *C. parvimanus*.)	Nile.	Dr. Rüppell (C.).
5. Hgr.	„	J. Petherick, Esq. (C.).
6. Skel.	„	„
7. Ad.	Nile at Cairo.	L. Loat, Esq. (C.).
8. Hgr.	Pond near Bedushen, S. of Cairo.	„
9–10, 11. Yg.	Near Cairo.	„
12. Skull.	Picked up at Demare, Libyan Desert.	Capt. S. Flower (P.).
13–16. Yg.	Near Luxor.	L. Loat, Esq. (P.).
17–23. Yg.	Between Luxor and Assuan.	„
24–27. Hgr. & yg.	Assuan.	„
28. Hgr.	Khartum.	J. Petherick, Esq. (C.).
29. Hgr.	Fashoda.	L. Loat, Esq. (C.).
30. Skull.	L. Victoria.	Mr. E. Degen (C.).
31. Hgr.	Kano, Hadeija R., Chad Basin.	Capt. G. B. Gosling (P.).

2. CLARIAS GARIEPINUS.

Silurus (*Heterobranchus*) *gariepinus*, Burchell, Trav. Int. S. Afr. i. p. 425, fig. (1822).

Clarias capensis (non C. & V.), A. Smith, Ill. Zool. S. Afr., Pisc. pl. xxvii. (1845).

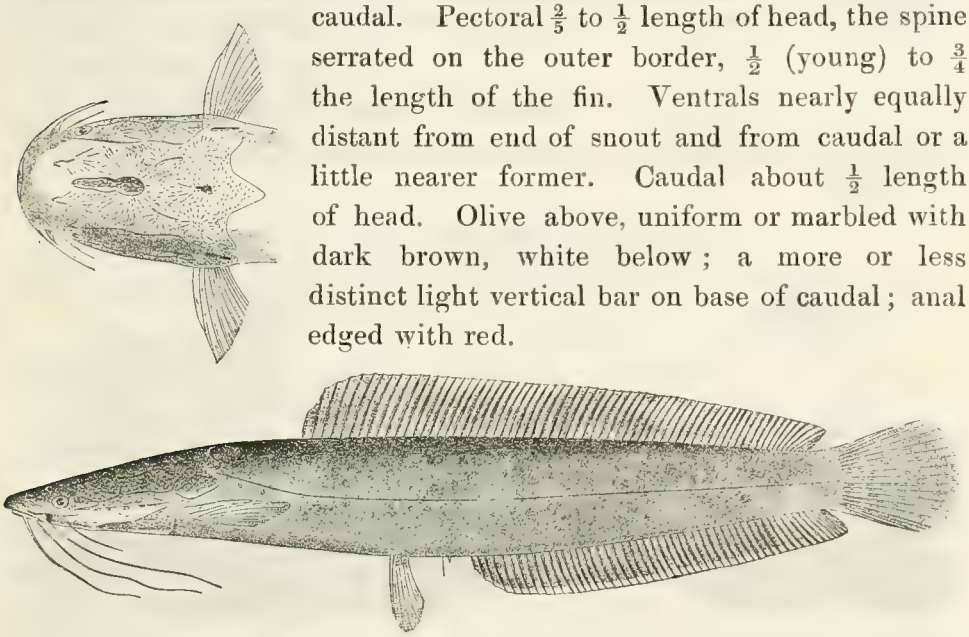
Clarias mossambicus, part., Peters, Mon. Berl. Ac. 1852, p. 682, and Reise Mossamb. iv. p. 32, pl. vi. figs. 1 & 2, and pl. vii. figs. 2 & 3 (1868).

Clarias gariepinus, Günth. Cat. Fish. v. p. 14 (1864); M. Weber, Zool. Jahrb., Syst. x. 1897, p. 149; Bouleng. Poiss. Bass. Congo, p. 254 (1901), and Proc. Zool. Soc. 1907, p. 1069.

Depth of body 6 to 7 times in total length, length of head 3 to $3\frac{2}{3}$ times. Head $1\frac{3}{5}$ to $1\frac{2}{3}$ times as long as broad, its upper surface more or less distinctly granulate in the adult; occipital process angular; frontal fontanelle 3 to $3\frac{1}{2}$ times as long as broad, $3\frac{1}{2}$ to 4 times in length of head; occipital fontanelle very small, in advance of occipital process; eye very small, 3 to 4 times in length of snout and 5 to 7 times in interorbital width in the adult; width of mouth nearly equal to interorbital width, $\frac{2}{5}$ length of head; band of præmaxillary teeth 4 (young) to 7 times as long as broad; vomerine teeth mostly conical, or granular-subconical, forming a crescentic band, which may be slightly interrupted in the middle, where it is nearly as broad as or narrower than præmaxillary band; nasal barbel $\frac{1}{5}$ to $\frac{2}{5}$ length of head ($\frac{3}{5}$ in young); maxillary barbel shorter than head in adult (a little longer in young), reaching base or second

third of pectoral spine; outer mandibular barbel about $1\frac{1}{2}$ times as long as inner, which measures $\frac{1}{2}$ to $\frac{2}{3}$ length of head. Gill-rakers on first arch fine and close-set, 25 (very young) to 80 in number. Clavicles not exposed. Dorsal 68–79, its distance from occipital process $\frac{1}{5}$ to $\frac{2}{7}$ length of head, its distance from caudal greater than diameter of eye. Anal 50–60, not reaching caudal. Pectoral $\frac{2}{5}$ to $\frac{1}{2}$ length of head, the spine serrated on the outer border, $\frac{1}{2}$ (young) to $\frac{3}{4}$ the length of the fin. Ventrals nearly equally distant from end of snout and from caudal or a little nearer former. Caudal about $\frac{1}{2}$ length of head. Olive above, uniform or marbled with dark brown, white below; a more or less distinct light vertical bar on base of caudal; anal edged with red.

Fig. 193.



Clarias gariepinus.
Mozambique, after Peters (Reise Mossamb.). $\frac{2}{5}$.

Total length 620 millim.

South Africa (Natal, Orange River, Transvaal), Rhodesia, Mozambique, Katanga, Angola.

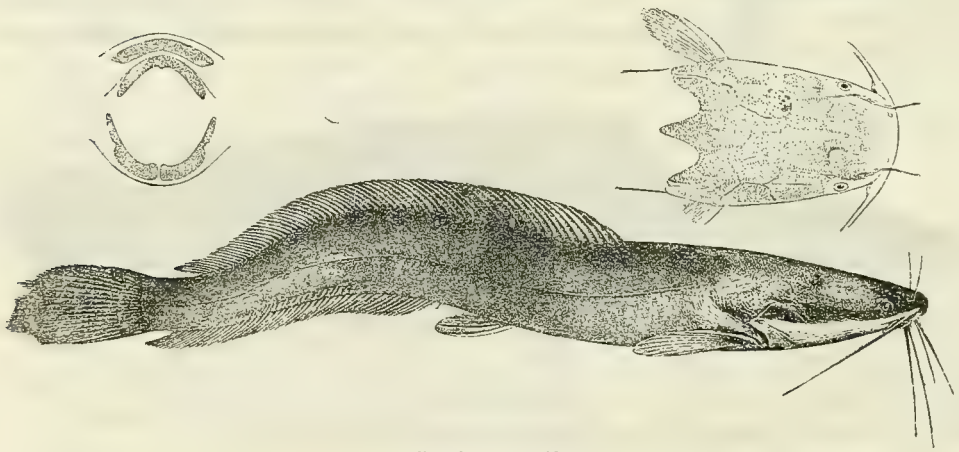
1. Ad., stuffed.	Durban.	Sir A. Smith (P.).
2–3. Hgr.	„	W. T. Ayres (C.).
4–5. Ad.	Umgeni R., near Pietermaritzburg.	Dr. E. Warren (P.).
6. Hgr.	Richmond district, Natal.	„
7. Yg.	Burghersdorp, Orange R.	South African Museum (P.).
8. Skull.	Vredeford Road, Orange R. Colony.	Capt. G. Barrett-Hamilton (P.).
9–10. Ad. & hgr.	Rhenoster R., trib. of Vaal R.	„
11. Yg.	Mooi R., Transvaal.	Dr. J. D. F. Gilchrist (P.).
12–13. Yg.	Great Olifant R., Transvaal.	Major G. E. Bruce (P.).
14–15. Yg.	Standerton, Transvaal.	S. Pershouse, Esq. (P.).
16. Yg.	Mazoe, Mashonaland.	J. ff. Darling, Esq. (P.).

17–18. Hgr. & yg.	Umsitu R., Upper Zambesi.	Rev. F. A. Rogers and E. C. Chubb, Esq. (P.).
19. Ad.	Kafue R., Upper Zambesi.	T. Codrington, Esq. (P.).
20–24. Yg.	Beira, Mozambique.	Mr. C. Grant (C.); C. D. Rudd, Esq. (P.).
25. Yg.	Lofoi, Katanga.	Capt. Lemaire (C.).
26–27. Yg.	Caculovar R., Mossamedes.	Dr. W. J. Ansorge (C.).
28–29. Yg.	Pungo Andongo, Angola.	,,

3. CLARIAS MOORII.

Boulenger, Ann. & Mag. N. H. (7) viii. 1901, p. 13, and Fish. Nile, p. 283, pl. l. (1907).

Fig. 194.



Clarias moorii.
Type (F. N.). $\frac{1}{5}$.

Depth of body nearly 7 times in total length, length of head $3\frac{1}{4}$ times. Head $1\frac{3}{5}$ times as long as broad, its upper surface coarsely granulate; occipital process angular, a little longer than broad; frontal fontanelle knife-shaped, thrice as long as broad, nearly 4 times in length of head; occipital fontanelle small, in advance of occipital process; eye $3\frac{1}{3}$ times in length of snout, $6\frac{2}{3}$ times in interorbital width; width of mouth nearly equal to interorbital width; band of præmaxillary teeth 6 times as long as broad; vomerine teeth mostly pointed, a few in the middle granular, forming a crescentic band which is as broad as the præmaxillary band. Nasal barbel $\frac{1}{5}$ length of head; maxillary barbel a little more than half length of head, extending to root of pectoral; outer mandibular barbel $1\frac{1}{2}$ times as long as inner, which measures nearly $\frac{1}{3}$ length of head. Gill-rakers long and closely set,

87 on anterior arch. Clavicles striated, distinct under the thin skin. Dorsal 66, its distance from occipital process $\frac{1}{5}$ length of head, its distance from caudal 3 times length of eye. Anal 54, separated from the caudal by a distinct interspace. Pectoral fin nearly half length of head, the spine serrated on the outer border and $\frac{2}{3}$ the length of the fin. Ventrals a little nearer end of snout than root of caudal. Caudal about half length of head. Olive-brown above, white beneath.

Total length 590 millim.

Lake Albert Edward.

1. Type. L. Albert Edward. Prof. J. E. S. Moore (C.).

4. CLARIAS SENEGALENSIS.

Cuv. & Val. Hist. Poiss. xv. p. 376 (1840); Steind. Sitzb. Ak. Wien, lx. i. 1869, p. 978; Bouleng. Proc. Zool. Soc. 1907, p. 1070.

Clarias anguillaris, part., Günth. Cat. Fish. v. p. 14 (1864).

Clarias budgetti, Bouleng. Proc. Zool. Soc. 1900, p. 513.

Depth of body $6\frac{1}{2}$ to $7\frac{1}{2}$ times in total length, length of head 3 to $3\frac{2}{3}$ times. Head $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as broad, upper surface more or less coarsely granulate in the adult; occipital process angular; frontal fontanelle sole-shaped, 3 to 5 times as long as broad, 4 to $4\frac{1}{2}$ times in length of head; occipital fontanelle very small, in advance of occipital process; eye small, 3 to 4 times in length of snout, $5\frac{1}{2}$ to 7 times in interorbital width in the adult; width of mouth nearly equal to interorbital width, $\frac{2}{5}$ length of head; band of præmaxillary teeth 6 to 8 times as long as broad; vomerine teeth mostly granular, forming a crescentic band, which is as broad as or a little narrower than the præmaxillary band; nasal barbel $\frac{1}{3}$ to $\frac{1}{2}$ length of head; maxillary barbel $\frac{3}{4}$ to once length of head (a little longer in the young), reaching about middle or end of pectoral spine; outer mandibular barbel $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as inner, which measures $\frac{2}{5}$ to $\frac{2}{3}$ length of head. Gill-rakers on first arch fine and closely set, 30 to 40 in number. Clavicles striated and covered with thin skin. Dorsal 65–80, its distance from the occipital process $\frac{1}{7}$ to $\frac{1}{4}$ length of head, its distance from caudal not or but little greater than diameter of eye. Anal 46–58, narrowly separated from caudal. Pectoral nearly $\frac{1}{2}$ length of head, the spine serrated on the outer border, $\frac{2}{3}$ the length of the fin in adult. Ventrals midway between end of snout and caudal or a little nearer the former. Caudal about $\frac{1}{2}$ length of head. Olive or dark brown above,

with or without darker spots or marblings, white beneath ; anal with a light edge.

Total length 850 millim.

Senegal, Gambia, Niger. Type (in Paris Mus.), stuffed, examined.

1–2. Ad.	St. Louis, Senegal.	M. P. Delhez (C.).
3–7. Hgr. & yg.	Kaëdi, „	„
8–10. Types of *C. budgetti*.	Gambia.	J. S. Budgett, Esq. (P.).
11. Ad.	Niger.	Mr. J. T. Dalton (C.).
12–13. Ad.	„	W. A. Forbes, Esq. (P.).
14. Yg.	Benue R., N. of Ibi.	H. L. Norton Traill, Esq. (C.).

5. CLARIAS MOSSAMBICUS.

Clarias mossambicus, part., Peters, Mon. Berl. Ac. 1852, p. 682, and Reise Mossamb. iv. p. 32, pl. vi. fig. 3 (1868).

Clarias gariepinus, part., Günth. & Playf. Fish. Zanzib. p. 113 (1866).

Clarias mossambicus, Fischer, Jahrb. Hamb. Wiss. Anst. i. 1884, p. 28 ; Vincig. Ann. Mus. Genova, (2) xv. 1895, p. 31, fig. 1, and xvii. 1896, p. 25 ; Pfeff. Thierw. O.-Afr., Fische, p. 27, fig. (1896) ; Pellegr. Mém. Soc. Zool. France, xvii. 1905, p. 176 ; Boulenq. Proc. Zool. Soc. 1907, p. 1071.

Clarias robecchii, Vincig. Ann. Mus. Genova, (2) xiii. 1893, p. 450, and xv. 1895, p. 30, fig. ; Boulenq. Poiss. Bass. Congo, p. 253 (1901), and Fish. Nile, p. 285, pl. li. fig. 1 (1907).

Clarias lazera (non Cuv. & Val.), Günth. Proc. Zool. Soc. 1894, p. 89 ; Boulenq. Proc. Zool. Soc. 1901, ii. p. 161.

Clarias smithii, Günth. Proc. Zool. Soc. 1896, p. 219, fig.

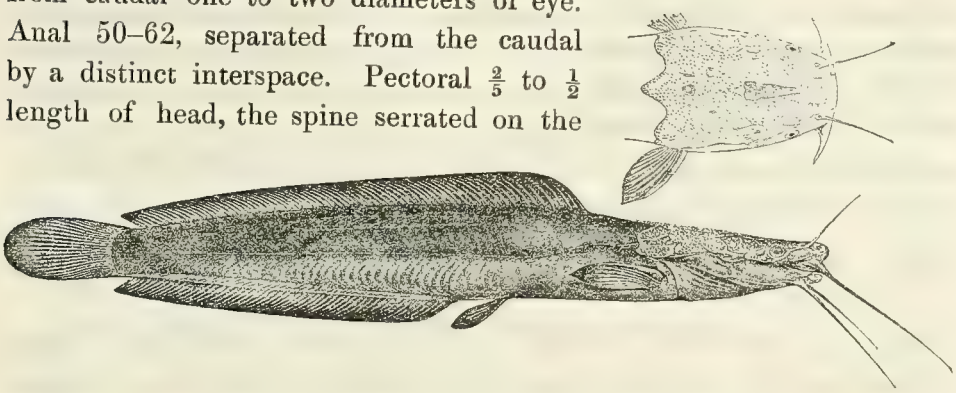
Clarias microphthalmus, Pfeff. op. cit. p. 28 ; Hilgend. Zool. Jahrb., Syst. xxii. 1905, p. 410.

Clarias güntheri, Pfeff. l. c.

Depth of body 6 to 8 times in total length, length of head 3 to $3\frac{2}{3}$ times. Head $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as broad, its upper surface coarsely granulate in the adult ; occipital process angular ; frontal fontanelle sole-shaped or knife-shaped, $2\frac{1}{2}$ to 4 times as long as broad, $3\frac{1}{2}$ to $5\frac{1}{2}$ times in length of head ; occipital fontanelle small, in advance of occipital process ; eye $2\frac{1}{2}$ (young) to 4 times in length of the snout, 4 (young) to 8 times in interorbital width ; width of mouth equal to or a little less than interorbital width ; band of præmaxillary teeth 4 (young) to 8 times as long as broad ; vomerine teeth granular, forming a crescentic band with or without a short posterior median process, this band 1 to $1\frac{1}{2}$ times the width of the præmaxillary band ; nasal barbel $\frac{1}{5}$ to $\frac{2}{5}$ length of head ($\frac{1}{2}$ to $\frac{2}{3}$ in the very young) ; maxillary barbel $\frac{2}{3}$ to

once length of head (a little longer in the very young), not extending beyond middle of pectoral fin; outer mandibular barbel $1\frac{1}{4}$ to $1\frac{3}{5}$ times as long as inner, which measures $\frac{1}{2}$ to $\frac{3}{4}$ length of head. Gill-rakers long and closely set, 25 (very young)–110 on anterior arch. Clavicles hidden under the skin. Dorsal 62–78, its distance from occipital process $\frac{1}{7}$ to $\frac{1}{4}$ length of head, its distance from caudal one to two diameters of eye. Anal 50–62, separated from the caudal by a distinct interspace. Pectoral $\frac{2}{5}$ to $\frac{1}{2}$ length of head, the spine serrated on the outer border and $\frac{3}{5}$ to $\frac{3}{4}$ the length of the fin. Ventrals equally distant from end of snout and from root of caudal, or a little nearer former. Caudal $\frac{2}{5}$ to $\frac{1}{2}$ length of head. Olive to blackish above, white beneath; a more or less distinct dark band on each side of the lower surface of the head.

Fig. 195.



Clarias mossambicus.
Lake Tsana (F. N.). $\frac{1}{3}$.

Total length 650 millim.

East Africa, from Abyssinia and Lake Victoria to Lake Tanganyika and the Zambesi.—Type in Berlin Museum.

1–2. Ad.	L. Victoria.	Sir H. H. Johnston (P.).
3. Yg.	„	Col. Delmé Radcliffe (P.).
4–6. Ad.	Entebbe, Uganda.	Mr. E. Degen (C.).
7. Hgr.	Unfras R., L. Tsana.	„
8–9. Hgr.	Warrar, Hawash R., Abyssinia.	„
10. Ad.	Hawash R.	Prof. O. Neumann (C.).
11–12. Hgr.	Marmasa, Gota R. (Hawash System), Abyssinia, 4000–5000 ft.	Mr. E. Degen (C.).
13. Hgr.	Elgo R., L. Abaia, 3000 ft.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
14. Type of *C. smithii*.	Webi Shebeli.	Dr. Donaldson Smith (C.).
15. Hgr.	Voi R., Taita, E. Africa.	C. S. Betton, Esq. (P.).
16. Hgr.	Ngatana, Tana R., „	Prof. J. W. Gregory (P.).

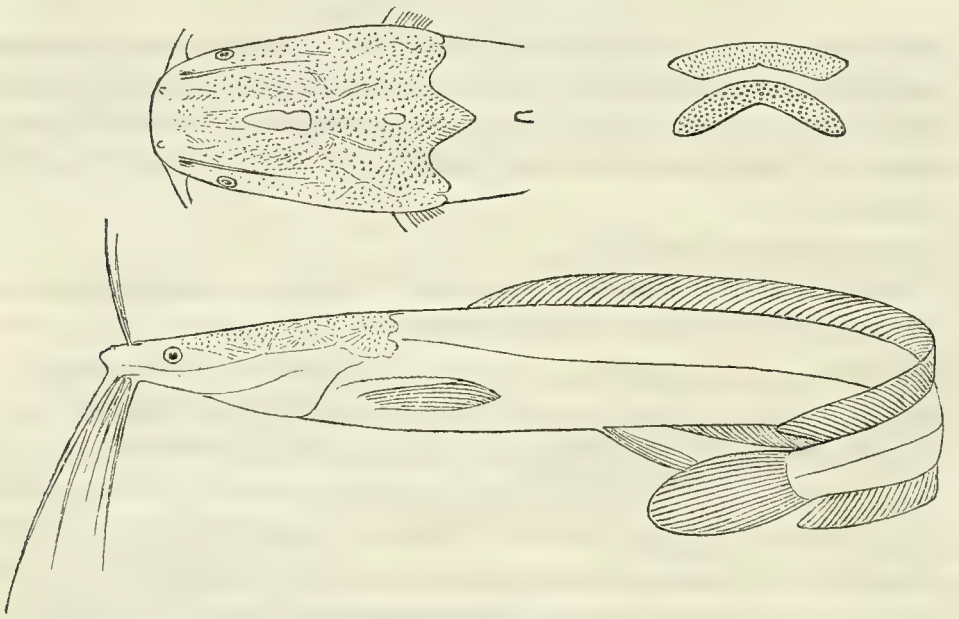
17–18. Yg.	Bubu R., Urangi, E. Africa.	Prof. O. Neumann (C.).
19–21. Yg.	Kandoa, Usagara, „	Capt. Bloyet (C.); Paris Museum (E.).
22–23, 24, 25, 26, 27. Hg. & yg.	Zanzibar.	Sir L. Playfair (P.).
28–29. Yg.	„	Sir J. Kirk (P.).
30. Yg.	L. Tanganyika.	Prof. J. E. S. Moore (C.).
31. Hgr.	Niamkolo, L. Tanganyika.	Dr. W. A. Cunnington (C.).
32. Hgr.	L. Bangwelu.	F. H. Melland, Esq. (P.).
33. Ad.	Chiromo, Shiré R.	R. MacDonald, Esq. (P.).
34–39. Hgr. & yg.	Beira, Mozambique.	Mr. C. Grant (C.); C. D. Rudd, Esq. (P.).

6. CLARIAS VINCIGUERRÆ.

Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 438, and Proc. Zool. Soc. 1907, p. 1072, fig.

Depth of body 7 times in total length, length of head 3 times. Head $1\frac{5}{7}$ times as long as broad, upper surface strongly granulated; occipital

Fig. 196.



Clarias vinciguerræ.
Type (P. Z. S. 1907). $\frac{2}{7}$.

process angular; frontal fontanelle knife-shaped, $3\frac{1}{2}$ times as long as broad, $4\frac{1}{2}$ times in length of head; occipital fontanelle small, in advance of occipital process; eye small, 3 times in length of snout, $5\frac{1}{2}$ times in

interorbital width; width of mouth a little less than interorbital width, $\frac{2}{5}$ length of head. Band of præmaxillary teeth $5\frac{1}{2}$ times as long as broad; vomerine teeth granular, forming a crescentic band which is as broad as the præmaxillary band. Nasal barbel nearly $\frac{2}{5}$ length of head; maxillary barbel slightly shorter than head, reaching base of pectoral fin; outer mandibular barbel $\frac{2}{3}$ length of head, inner $\frac{2}{5}$. Gill-rakers fine and closely set, about 90 on first arch. Dorsal 67, its distance from the occipital process $\frac{1}{9}$ length of head, its distance from the caudal 2 diameters of eye. Anal 53, narrowly separated from caudal. Pectoral not quite $\frac{1}{2}$ length of head, the spine finely serrated on the outer border, $\frac{5}{7}$ the length of the fin. Ventrals a little nearer end of snout than caudal. Latter nearly $\frac{1}{2}$ length of head. Dark brown above, whitish beneath; anal and caudal with a fine light edge.

Total length 410 millim.

Kassam River (Hawash System), Southern Ethiopia.

1. Type. Kassam R. at Awhorra Mullka, Shoa, 4000 ft. Mr. E. Degen (C.).

7. CLARIAS LAZERA.

Silurus anguillaris (non Linn.), A. Russell, Nat. Hist. Aleppo, 2nd ed. ii. p. 217, pl. viii. (1794).

Macropteronotus charmuth, part., Lacep. Hist. Poiss. v. p. 85 (1803).

Heterobranchus anguillaris (non Linn.), I. Geoffr. Descr. Egypte, Poiss. p. 305, pl. xvi. fig. 1 (1827); Joannis, Mag. Zool. 1835, pl. xiv.

Garmout Laséra, Rifaud, Voy. Egypte, pl. cxcv. (1830).

Clarias lazera, Cuv. & Val. Hist. Poiss. xv. p. 372 (1840); Günth. Cat. Fish. v. p. 16 (1864); Peters, Reise Mossamb. iv. p. 36 (1868); Günth. Petherick's Trav. ii. p. 218 (1869); Bouleng. Poiss. Bass. Congo, p. 252 (1901); Hilgend. Zool. Jahrb., Syst. xxii. 1905, p. 409; Bouleng. Fish. Nile, p. 288, pl. lii. (1907), and Proc. Zool. Soc. 1907, p. 1073.

Clarias syriacus, Cuv. & Val. t. c. p. 375.

Clarias capensis (non Cuv. & Val.), Huxley, Mem. Geol. Surv. x. pp. 30 & 32, fig. (1861).

? *Clarias ngamensis*, Casteln. Poiss. Afr. Austr. p. 63 (1861).

Clarias orontis, Günth. Cat. Fish. v. p. 15; Sauv. N. Arch. Mus. (2) vii. 1884, p. 18, pl. 1. fig. 2.

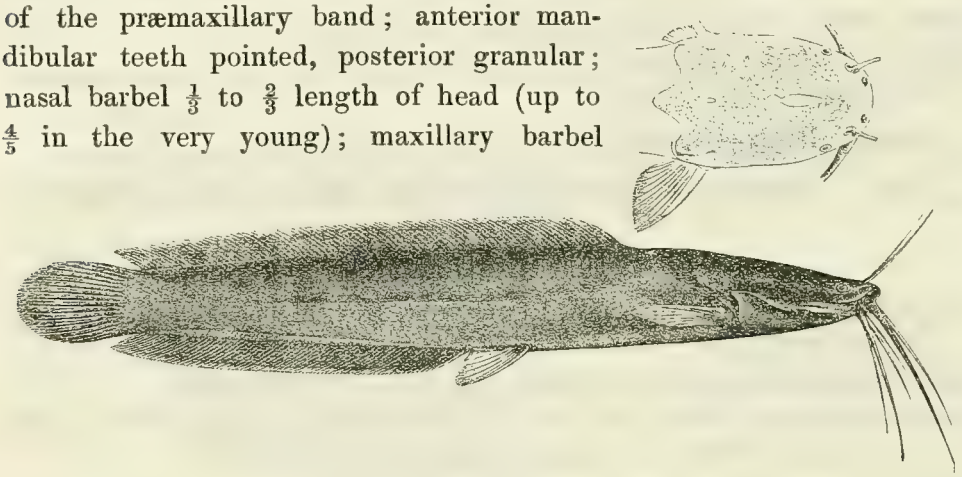
Clarias macracanthus, Günth. t. c. pp. 16 & 429, and Petherick's Trav. ii. p. 219; Lortet, Arch. Mus. Lyon, iii. 1883, p. 151, pl. xvii.; Tristram, Faun. Palest. p. 169, pl. xix. fig. 1 (1884).

Clarias xenodon, Günth. Cat. Fish. v. p. 16.

Clarias longiceps, Bouleng. Ann. Mus. Congo, Zool. i. 1899, p. 103, pl. xli. fig. 1, and Poiss. Bass. Congo, p. 256 (1901).

Depth of body 5 to 9 times in total length, length of head 3 to $3\frac{1}{2}$ times. Head $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as broad, its upper surface coarsely granulate in the adult; occipital process angular or rounded; frontal fontanelle sole-shaped or knife-shaped, $2\frac{1}{2}$ to 4 times as long as broad, $3\frac{1}{2}$ to 6 times in length of head; occipital fontanelle small, in advance of occipital process; eye 2 (young) to $4\frac{1}{3}$ times in length of snout, 4 to 7 times in interorbital width; width of mouth equal to or a little less than interorbital width; band of præmaxillary teeth 4 (young) to 6 times as long as broad; vomerine teeth granular, forming a crescentic band with or without a posterior median process, its greatest width, in the middle, $1\frac{1}{2}$ to $2\frac{1}{2}$ times that of the præmaxillary band; anterior mandibular teeth pointed, posterior granular; nasal barbel $\frac{1}{3}$ to $\frac{2}{3}$ length of head (up to $\frac{4}{5}$ in the very young); maxillary barbel

Fig. 197.



Clarias lazera.
Lower Nile (F. N.). $\frac{1}{4}$.

usually a little shorter than head, sometimes a little longer (up to once and a half in the very young), reaching extremity of pectoral spine or a little beyond extremity of pectoral fin; outer mandibular barbel $1\frac{1}{5}$ to $1\frac{2}{3}$ times as long as inner, which measures $\frac{2}{5}$ to $\frac{3}{5}$ length of head. Gill-rakers long and closely set, 35 (very young) to 135 on anterior arch. Clavicles striated or rugose with granulations, more or less distinct under the thin skin. Dorsal 62–82, its distance from occipital process $\frac{1}{7}$ to $\frac{1}{4}$ length of head, its distance from caudal not greater than diameter of eye. Anal 50–65, narrowly separated from caudal. Pectoral $\frac{2}{5}$ to $\frac{1}{2}$ length of head, the spine serrated on the outer side and $\frac{2}{5}$ (young) to $\frac{3}{4}$ the length of the fin. Ventrals equally distant from end of snout and root of caudal, or a little nearer the former. Caudal about half length of head. Greyish olive or olive-brown to

blackish above, uniform or marbled with lighter, white or greyish beneath; vertical fins dark, often with a yellowish edge; usually a more or less distinct dark band on each side of the lower surface of the head; young specimens often with a dark bar, edged with yellowish in front and behind, across the caudal fin; black spots sometimes present on the caudal fin.

Total length 1170 millim.

Syria, Nile, Senegal to Congo.—Types in Paris Museum.

1. Type of *C. orontis.*	Orontes.	Alex. Russell, Esq. (C.).
2–4, 5. Ad. & hgr.	L. of Galilee.	Canon Tristram (C.).
6–7. Yg.	Near Ghet-el-Nassara, L. Menzaleh.	L. Loat, Esq. (C.).
8–9. Ad. & hgr.	Bahr-el-Tawilah, near L. Menzaleh.	,,
10–13. Ad.	Near Damietta.	,,
14. Skel.	,, ,,	,,
15–17. Hgr. & yg.	Nile near Cairo.	,,
18. Skel.	,, ,, ,,	Dr. Rüppell (C.).
19. Hgr.	Giza, near Cairo.	Capt. S. Flower (P.).
20–25. Ad. & hgr.	Beni Souef, Fayum.	L. Loat, Esq. (C.).
26. Skel.	,, ,, ,,	,,
27. Ad.	Birket Karun, ,,	,,
28. Ad.	,, ,, ,,	Dr. W. A. Cunnington and C. L. Boulenger, Esq. (C.).
29–32. Hgr.	Bahr Selah, Fayum.	L. Loat, Esq. (C.).
33–35. Yg.	Bahr Tamiyeh, Fayum.	,,
36. Hgr.	Between Abu Tig and Assiut.	,,
37–38. Hgr. & yg.	Assiut.	,,
39–41. Hgr. & yg.	Nile at Luxor.	,,
42–44. Yg.	Near Luxor.	,,
45–54. Yg.	Between Luxor and Assuan.	,,
55–59. Hgr. & yg.	Assuan.	,,
60–61. Ad.	Id. of Arko, Nubia.	,,
62, 63–64. Types of *C. macracanthus.*	Khartum.	J. Petherick, Esq. (C.).
65, 66–68. Hgr. & yg.	,,	,,
69–70. Hgr.	Karkoj, Blue Nile.	L. Loat, Esq. (C.).
71. Hgr.	Fashoda, White Nile.	,,
72–74. Yg.	Gharb-el-Aish, ,,	,,
75. Ad.	Bahr Zeraf.	Capt. S. Flower (P.).

76–78. Yg.	Gondokoro, Bahr et Gebel.	J. Petherick, Esq. (C.).
79. Ad.	„	L. Loat, Esq. (C.).
80. Ad.	Butyaba, L. Albert.	J. S. Budgett, Esq. (P.).
81. Ad.	L. Albert Edward.	Prof. J. E. S. Moore (C.).
82–83. Yg.	Gallaland, W. of Omo R.	Dr. Donaldson Smith (C.).
84. Hgr.	Sire R., L. Abaia, 3000 ft.	Mr. P. C. Zaphiro (C.); W. N. MacMillan, Esq. (P.)
85. Ad.	L. Chad.	Capt. G. B. Gosling (P.).
86–90. Yg.	Guidimuni Pond, near Zinder, Upp. Senegal.	Paris Museum (E.).
91. Hgr.	Niger.	Mr. J. T. Dalton (C.).
92. Ad.	Mureji, Upp. Niger.	J. S. Budgett, Esq. (P.).
93. Yg.	Abo, Low. Niger.	Dr. W. J. Ansorge (C.).
94. Yg.	Agberi, „	„
95. Yg.	Benue R., N. of Ibi.	H. L. Norton Traill, Esq. (C.).
96–101. Hgr. & yg.	Orah R., Lagos.	Major G. E. Bruce (P.).
102–104. Yg., types of *C. longiceps*.	Boma, Low. Congo.	M. P. Delhez (C.).
105. Ad.	Monsembe, Upp. Congo.	Rev. J. H. Weeks (P.).
106. Ad.	Upoto, „	Capt. Wilverth (C.).
107–109. Ad. & hgr.	Upper Congo.	Brussels University.
110. Type of *C. macracanthus*.	—— ?	Zoological Society.

8. CLARIAS MELLANDI.

Bouleng. Ann. & Mag. N. H. (7) xvi. 1905, p. 644, and Proc. Zool. Soc. 1907, p. 1074, fig.

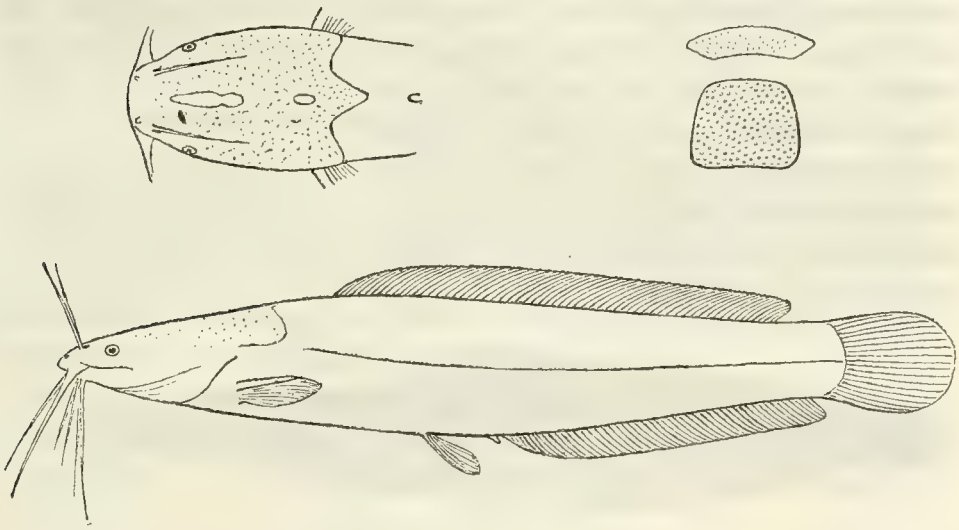
Depth of body $5\frac{1}{2}$ times in total length, length of head $3\frac{1}{4}$ times. Head once and $\frac{2}{3}$ as long as broad, feebly granulate above; occipital process angular; frontal fontanelle knife-shaped, $\frac{1}{3}$ length of head; occipital fontanelle very small, in advance of occipital process; eye $3\frac{1}{2}$ times in length of snout, $5\frac{1}{2}$ times in interorbital width, which exceeds width of mouth and equals $\frac{1}{3}$ length of head; band of præmaxillary teeth 4 times as long as broad; vomerine teeth granular, forming a large semielliptic patch, squarely truncate behind, its longitudinal diameter 3 times that of the band of præmaxillary teeth; nasal barbel $\frac{2}{5}$ length of head; maxillary barbel $\frac{2}{3}$ length of head, reaching gill-opening; outer mandibular barbel $\frac{3}{5}$ length of head. Gill-rakers long, about 35 on anterior arch. Clavicles striated, distinct under the thin skin. Dorsal 65, its distance from occipital process $\frac{1}{6}$ length of head, its distance from caudal fin $\frac{1}{4}$ length of head. Anal 55, very narrowly separated from caudal. Pectoral $\frac{2}{5}$ length of head, its spine

serrated on the outer border and $\frac{3}{4}$ the length of the fin. Ventrals slightly nearer end of snout than caudal. Caudal $\frac{1}{2}$ length of head. Olive-brown above, marbled with darker, whitish beneath; a dark streak on each side of the throat.

Total length 345 millim.

Lake Bangwelu.

Fig. 198.



Clarias mellandi.
Type (P. Z. S. 1907). $\frac{1}{3}$.

1. Type.	L. Bangwelu.	F. H. Melland, Esq., and Father Foulon (C.).

The following young specimens (85 and 145 millim. long) are referred with doubt to this species. In the smaller the vomerine band of teeth is crescentic, and only a little broader than the præmaxillary, whilst in the larger it forms almost a half-disk. 16–20 gill-rakers on anterior arch. Dorsal 70. Anal 60. Distance between dorsal and caudal $\frac{1}{4}$ to $\frac{1}{3}$ length of head.

2–3. Yg.	Dongwenna, Mossamedes.	Dr. W. J. Ansorge (C.).

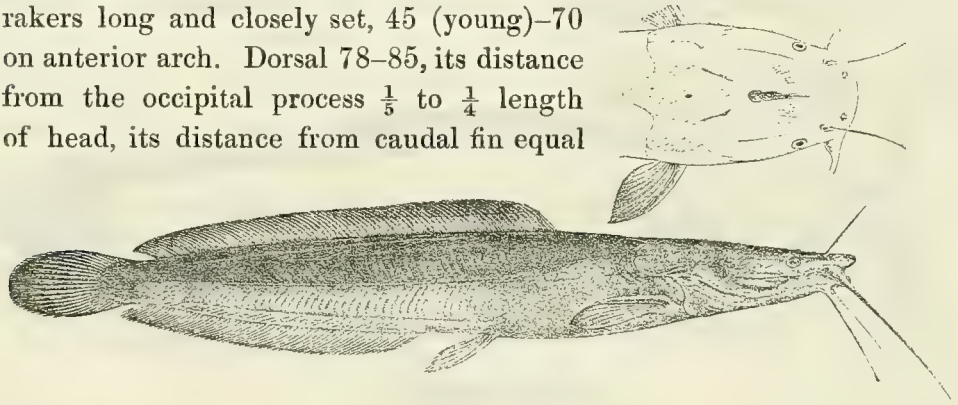
9. CLARIAS TSANENSIS.

Boulenger, Ann. & Mag. N. H. (7) x. 1902, p. 438, Fish. Nile, p. 292, pl. li. fig. 2 (1907), and Proc. Zool. Soc. 1907, p. 1075.

Depth of body $6\frac{1}{2}$ to $7\frac{1}{2}$ times in total length, length of head $3\frac{1}{8}$ to $3\frac{4}{5}$ times. Head $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as broad, perfectly smooth above; vertex very strongly flattened, almost concave in the adult;

occipital process angular; frontal fontanelle knife-shaped, 3 to 4 times as long as broad, 4 to 5 times in length of head; occipital fontanelle indistinct; eye $2\frac{1}{2}$ (young) to 4 times in length of snout, 4 to $6\frac{2}{3}$ times in interorbital width; width of mouth nearly equal to interorbital width; band of præmaxillary teeth 4 to $5\frac{1}{2}$ times as long as broad; vomerine teeth granular, forming a crescentic band which is as broad as the præmaxillary band; nasal barbel $\frac{1}{3}$ to $\frac{1}{2}$ length of head ($\frac{3}{4}$ in the very young); maxillary barbel $\frac{3}{4}$ to once length of head (longer in the very young), reaching base or extremity of pectoral spine; outer mandibular barbels $\frac{1}{2}$ to $\frac{4}{5}$ length of head (as long as head in the very young). Gill-rakers long and closely set, 45 (young)–70 on anterior arch. Dorsal 78–85, its distance from the occipital process $\frac{1}{5}$ to $\frac{1}{4}$ length of head, its distance from caudal fin equal

Fig. 199.



Clarias tsanensis.
Type (F. N.). $\frac{1}{4}$.

to or a little less than diameter of eye. Anal 60–70, touching root of caudal. Pectoral not quite half length of head, the spine very slightly serrated on the outer border, $\frac{3}{5}$ (young) to $\frac{2}{3}$ the length of the fin. Ventrals equally distant from end of snout and from caudal, or a little nearer the former. Caudal nearly $\frac{1}{2}$ length of head. Dark olive-brown above, greyish beneath.

Total length 430 millim.

Lake Tsana, Abyssinia.

1–3. Types. Zegi. Mr. E. Degen (C.).

10. CLARIAS CAPENSIS.

Cuv. & Val. Hist. Poiss. xv. p. 377 (1840); Bouleng. Poiss. Bass. Congo, p. 255 (1901), Proc. Zool. Soc. 1907, p. 1075, and Ann. Natal Mus. i. 1908, p. 237.

Depth of body $6\frac{2}{3}$ to $7\frac{1}{3}$ times in the total length, length of head 4 times. Head once and $\frac{1}{2}$ as long as broad, its upper surface coarsely granulate; occipital process angular; frontal fontanelle $3\frac{1}{2}$ to nearly

4 times as long as broad, $\frac{1}{4}$ to $\frac{1}{3}$ length of head; occipital fontanelle very small, well in advance of occipital process; eye very small, its diameter 3 to 4 times in length of snout, 5 to 7 times in interorbital width, which equals width of mouth and $\frac{2}{5}$ length of head; band of præmaxillary teeth 6 times as long as broad; band of vomerine teeth a little narrower than the præmaxillary band, rather widely interrupted in the middle, composed of small, partly pointed, partly granular teeth; nasal barbel $\frac{1}{3}$ to nearly $\frac{1}{2}$ length of head; maxillary barbel as long as head, reaching middle of pectoral spine; outer mandibular barbel $\frac{3}{4}$ length of head, inner about $\frac{1}{2}$. Gill-rakers on first arch long and closely set, 55 in number. Clavicles hidden under the skin. Dorsal 63–72, its distance from occipital process $\frac{2}{7}$ to $\frac{1}{3}$ length of head, its distance from caudal 1 to 4 diameters of eye. Anal 50–52, narrowly separated from caudal. Pectoral fin $\frac{1}{2}$ length of head, the spine feebly serrated on the outer border, $\frac{2}{3}$–$\frac{4}{5}$ the length of the fin. Ventral $1\frac{1}{4}$ times as distant from root of caudal as from end of snout. Caudal $\frac{1}{2}$ length of head. Dark olive-brown above, whitish beneath.

Total length 550 millim.

Natal.—Type (stuffed), in Paris Museum, examined.

1. Ad.	Pietermaritzburg.	Dr. E. Warren (P.).

11. CLARIAS PLATYCEPHALUS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 35, pl. x. fig. 1 (1902), and Proc. Zool. Soc. 1907, p. 1077.

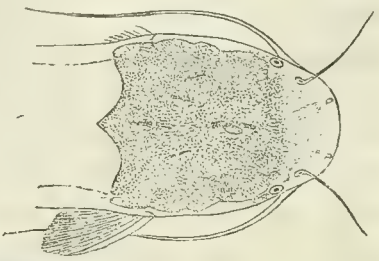
Depth of body 6 to $6\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Head $1\frac{1}{4}$ times as long as broad, feebly granulate above; occipital process obtusely pointed; frontal fontanelle sole-shaped, $\frac{1}{5}$ to $\frac{1}{4}$ length of head; occipital fontanelle smaller, in advance of occipital process; eye very small, 4 times in length of snout, $7\frac{1}{2}$ to 8 times in interorbital width, which equals width of mouth and $\frac{1}{2}$ length of head; band of præmaxillary teeth 5 times as long as broad; vomerine teeth conical, forming a crescentic band which is as broad as the præmaxillary band; nasal barbel $\frac{3}{5}$ to $\frac{3}{4}$ length of head; maxillary barbel $1\frac{1}{3}$ times as long as head, extending beyond extremity of pectoral fin; outer mandibular barbel as long as head, inner $\frac{2}{3}$ to $\frac{3}{4}$. Gill-rakers few and wide apart, 12 on anterior arch. Clavicles hidden under the skin. Dorsal 65–70, its distance from occipital process $\frac{1}{4}$ length of head, its distance from caudal greater than diameter of eye.

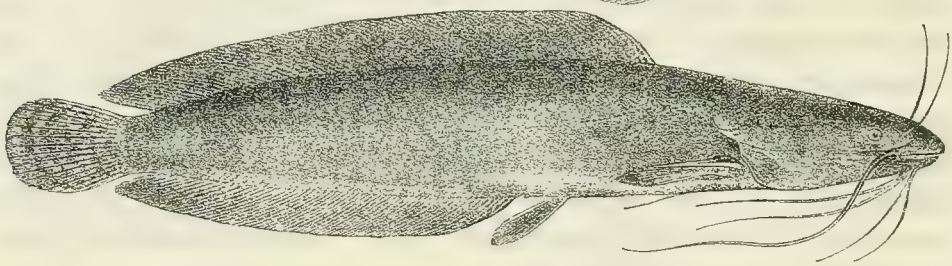
Anal 56–62, narrowly separated from caudal. Pectoral $\frac{1}{2}$ length of head, the spine smooth and $\frac{5}{7}$ the length of the fin. Ventral a little nearer end of snout than root of caudal. Caudal $\frac{1}{2}$ length of head. Dark brown above, brownish white beneath; anal with a light edge; caudal with dark bars.

Total length 340 millim.

Upper Congo, South Cameroon.

Fig. 200.





Clarias platycephalus.
Type (A. M. C.). $\frac{1}{3}$.

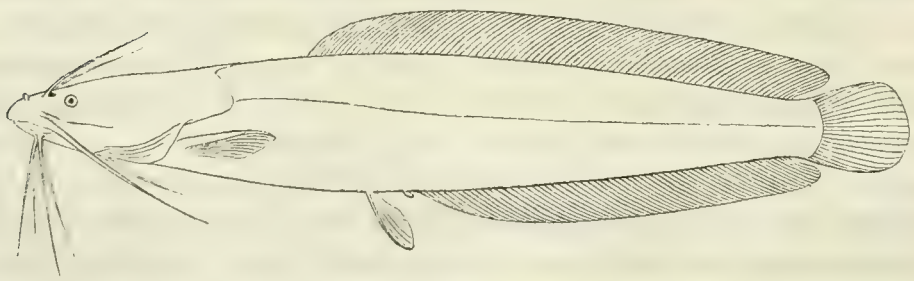
1. Type.	Monsembe, Upper Congo.	Rev. J. H. Weeks (P.).
2–3. Hgr.	Kribi R., S. Cameroon.	G. L. Bates, Esq. (C.).

12. CLARIAS JAENSIS, sp. n.

Depth of body 6 to $6\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times.

Fig. 201.

Head $1\frac{1}{3}$ to $1\frac{2}{5}$ times as long as broad, smooth or very feebly granulate above; occipital process obtusely pointed; frontal fontanelle sole-shaped, $\frac{1}{5}$ to $\frac{1}{6}$ length of head; occipital fontanelle small, in advance of occipital process; eye very small, 3 to



Clarias jaensis.
Type. $\frac{1}{3}$.

$4\frac{1}{2}$ times in length of snout, 6 to 8 times in interorbital width,

which equals width of mouth and $\frac{1}{2}$ length of head; band of præmaxillary teeth 6 times as long as broad; vomerine teeth granular, forming a crescentic band which is as broad as the præmaxillary band; nasal barbel $\frac{1}{2}$ to $\frac{2}{3}$ length of head; maxillary barbel nearly as long as or a little longer than head, reaching middle or end of pectoral fin; outer mandibular barbel $\frac{2}{3}$ to 1 length of head, inner $\frac{1}{2}$ to $\frac{2}{3}$. 20 to 23 gill-rakers on anterior arch. Clavicles hidden under the skin. Dorsal 85–95, its distance from occipital process $\frac{1}{3}$ length of head, its distance from caudal 2 diameters of eye. Anal 65–75, its distance from caudal $1\frac{1}{2}$ to 2 diameters of eye. Pectoral not quite $\frac{1}{2}$ length of head, the spine smooth or slightly serrated and $\frac{2}{3}$ the length of the fin. Ventral $1\frac{1}{3}$ times as distant from caudal as from end of snout. Caudal a little less than $\frac{1}{2}$ length of head. Dark brown above, white beneath.

Total length 450 millim.

Ja River (Congo System), South Cameroon.

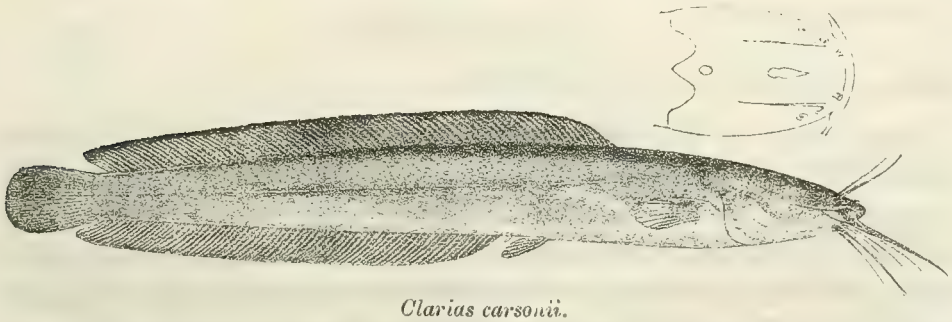
1–2, 3. Types.	Ja R. at Bitye.	G. L. Bates, Esq. (C.).
4–5. Tpyes.	„ at Esamesa.	„

13. CLARIAS CARSONII.

Bouleng. Ann. & Mag. N. H. (7) xii. 1903, p. 362, Fish. Nile, p. 294, pl. liii. fig. 1 (1907), and Proc. Zool. Soc. 1907, p. 1077.

Depth of body $6\frac{1}{2}$ to $9\frac{1}{2}$ times in total length, length of head $4\frac{1}{6}$ to 5 times. Head $1\frac{1}{5}$ to $1\frac{1}{3}$ times as long as broad, smooth; occipital process angular, not longer than broad; frontal fontanelle sole-shaped or knife-shaped, $2\frac{1}{2}$ to 3 times as long as broad, 4 or 5 times in length

Fig. 202.



Clarias carsonii.
L. Victoria (F. N.). $\frac{5}{8}$.

of head; occipital fontanelle small, in advance of or encroaching a little on occipital process; eye 3 to 5 times in length of snout, 6 to $8\frac{2}{3}$ times in interorbital width; width of mouth a little less than interorbital width; band of præmaxillary teeth $3\frac{1}{2}$ to 5 times as long as broad;

vomerine teeth conical, some very obtusely, forming a crescentic band which is about as broad as the præmaxillary band; nasal barbel $\frac{2}{5}$ to $\frac{3}{5}$ length of head; maxillary barbel $\frac{3}{5}$ to $\frac{3}{4}$ length of head, not reaching or reaching gill-opening; outer mandibular barbel $1\frac{1}{3}$ to $1\frac{1}{2}$ times length of inner, which measures $\frac{1}{2}$ to $\frac{2}{3}$ length of head. Gill-rakers few and wide apart, 10 or 11 on anterior arch. Clavicles hidden under the skin. Dorsal 65–78, its distance from occipital process $\frac{2}{5}$ to $\frac{3}{5}$ length of head, its distance from caudal equal to one or two diameters of eye. Anal 57–64, nearly touching caudal. Pectoral about $\frac{1}{2}$ length of head, the spine very indistinctly serrated and measuring about $\frac{2}{3}$ the length of the fin. Ventral $1\frac{1}{3}$ to $1\frac{2}{3}$ times as distant from caudal as from end of snout. Caudal $\frac{1}{2}$ as long as head. Dark brown above, lighter brown beneath.

Total length 285 millim.

Lake Nyassa to Uganda.

1. Type.	Fwambo, Brit. C. Africa.	A. Carson, Esq. (P.).
2–3. Hgr.	L. Nyassa.	Dr. W. A. Cunnington (C.).
4. Ad.	Fort Portal, E. of Ruwenzori.	R. B. Woosnam, Esq. (C.); Ruwenzori Expedition.
5–14. Ad., hgr., & yg.	L. Victoria.	Mr. W. G. Doggett (C.); Col. Delmé Radcliffe (P.).
15. Skel.	,,	,,
16–17. Ad. & hgr.	Bunjako, L. Victoria.	Mr. E. Degen (C.).
18. Hgr.	Munyongo, ,,	,,
19–28. Ad., hgr., & yg.	Mabira Forest, Chagwe, W. of Ripon Falls.	Dr. C. Christy (P.).

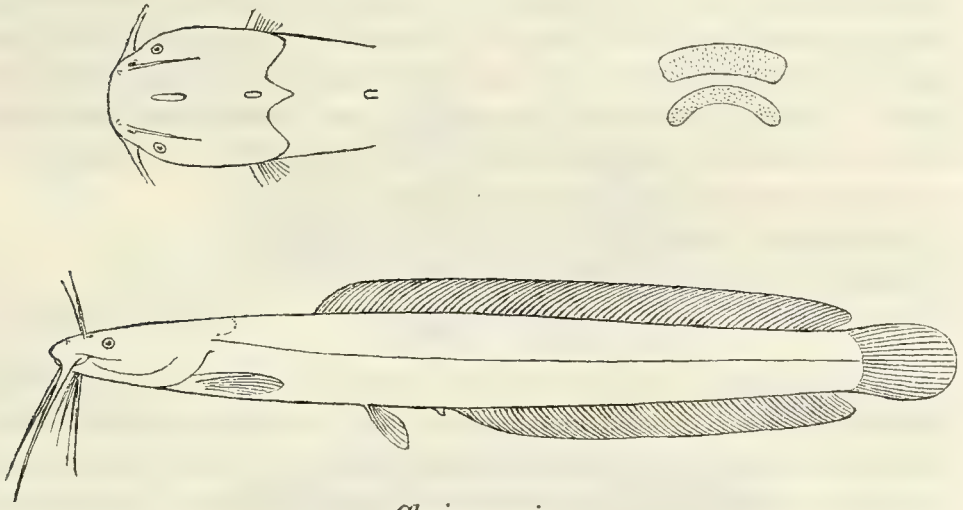
14. CLARIAS POENSIS.

Bouleng. Proc. Zool. Soc. 1907, p. 1078, fig.

Depth of body $8\frac{1}{3}$ times in total length, length of head $4\frac{1}{3}$ times. Head $1\frac{1}{3}$ times as long as broad, smooth; occipital process acutely pointed, as long as broad; frontal and occipital fontanelles very small, the latter in advance of occipital process; eye very small, 3 times in length of snout, 7 times in interorbital width, which equals width of mouth and $\frac{1}{2}$ length of head; band of præmaxillary teeth 4 times as long as broad; vomerine teeth conical, forming a curved band which is narrower than the præmaxillary band; nasal barbel about $\frac{2}{5}$ length of head, maxillary $\frac{5}{6}$ length of head and reaching a little beyond base of pectoral, outer mandibular $\frac{2}{3}$, inner mandibular $\frac{2}{5}$ length of head.

Gill-rakers few, 13 on anterior arch. Clavicles concealed under the skin. Dorsal 76, its distance from occipital process $\frac{2}{5}$ length of head, its distance from caudal a little greater than diameter of eye. Anal 60, narrowly separated from caudal. Pectoral $\frac{1}{2}$ length of head, the

Fig. 203.



Clarias poensis.
Type (P. Z. S. 1907). $\frac{3}{7}$.

spine very feebly serrated on both sides and about $\frac{2}{3}$ the length of the fin. Ventral $1\frac{1}{2}$ times as distant from base of caudal as from end of snout. Caudal $\frac{1}{2}$ length of head. Dark brown, lighter beneath.

Total length 285 millim.

Fernando Po.

1. Type. Fernando Po. Mr. E. Seimund (C).

15. CLARIAS SUBMARGINATUS.

Peters, Sitzb. Ges. naturf. Fr. Berl. 1882, p. 74 ; Bouleng. Proc. Zool. Soc. 1907, p. 1079.

Depth of body 6 to $6\frac{1}{2}$ times in total length, length of head 4 to 5 times. Head $1\frac{1}{3}$ times as long as broad, smooth ; occipital process pointed ; frontal fontanelle knife-shaped, $2\frac{1}{2}$ to 3 times as long as broad; occipital fontanelle smaller, slightly encroaching on occipital process ; eye very small, 3 times in length of snout, 7 times in inter-orbital width, which equals width of mouth and $\frac{1}{2}$ length of head; band of præmaxillary teeth $4\frac{1}{2}$ or 5 times as long as broad ; vomerine teeth

conical, forming a curved band which is as broad as the præmaxillary band; nasal barbel about $\frac{2}{3}$ or $\frac{3}{4}$ length of head, maxillary $1\frac{1}{6}$ to $1\frac{1}{4}$, outer mandibular once, inner mandibular $\frac{3}{5}$. Gill-rakers very few, 10 on anterior arch. Clavicles concealed under the skin. Dorsal 75–84, its distance from occipital process $\frac{2}{5}$ length of head, its distance from caudal equal to or a little greater than diameter of eye. Anal 60–70, also separated from the caudal. Pectoral $\frac{1}{2}$ length of head, the spine very feebly serrated on outer side and about $\frac{2}{3}$ the length of the fin. Ventral $1\frac{1}{3}$ times as distant from base of caudal as from end of snout. Caudal $\frac{1}{2}$ length of head. Dark brown, lighter beneath; a dark, light-edged curved band on the caudal.

Total length 210 millim.

Cameroon.—Types in Berlin Museum.

1–2, 3–6. Ad. Ja River at Bitye, S. Cameroon. G. L. Bates, Esq. (C.).

Clarias neumanni, Hilgendorf, Zool. Jahrb., Syst. xxii. 1905, p. 409, from the Guassa Nyiro R., flowing into the Nguruman Salt-lake, Brit. East Africa, described from an imperfect stuffed specimen, appears to be nearly related to *C. submarginatus*, but the vomerine teeth form a broader band in the middle.

16. CLARIAS LIOCEPHALUS.

Bouleng. Tr. Zool. Soc. xv. 1898, p. 24, pl. vii. fig. 2, Poiss. Bass. Congo, p. 257 (1901), and Proc. Zool. Soc. 1907, p. 1079.

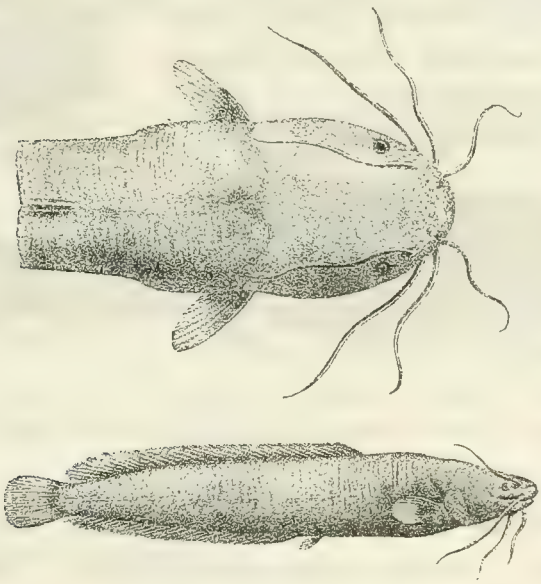
Depth of body $5\frac{1}{2}$ to 7 times in total length, length of head $4\frac{1}{2}$ or 5 times. Head $1\frac{1}{4}$–$1\frac{1}{3}$ times as long as broad, smooth; occipital process angular; fontanelle feebly distinct, occipital in advance of occipital process; eyes small, 3 times in length of snout, 5 to 6 times in interorbital width; width of mouth equal to interorbital width, $\frac{1}{2}$ length of head; vomerine teeth conical, forming a crescentic band which is about as broad as the præmaxillary band; nasal barbel $\frac{2}{3}$ to $\frac{3}{4}$ length of head; maxillary barbel as long as head or a little longer, extending to middle or extremity of pectoral; outer mandibular barbel about $1\frac{1}{4}$ length of inner, which measures $\frac{3}{5}$ to $\frac{2}{3}$ length of head. 13 to 15 gill-rakers on anterior arch. Clavicles not exposed. Dorsal 70–72, its distance from occipital process $\frac{3}{5}$ or $\frac{2}{3}$ length of head, its distance from caudal greater than diameter of eye. Anal 50–58, not reaching caudal. Pectoral about $\frac{1}{2}$ length of head, the spine feeble, not serrated, about $\frac{1}{2}$ the

length of the fin. Ventrals much nearer end of snout than caudal. Caudal $\frac{1}{2}$ length of head. Uniform blackish brown.

Total length 140 millim.

Lake Tanganyika; Upper Ubanghi.

Fig. 204.



Clarias liocephalus.
Type (Tr. Z. S. 1898).

1–2. Types.	L. Tanganyika.	Prof. J. E. S. Moore (C.).
3. Ad.	Banzyville, Ubanghi.	Capt. Royaux (C.).

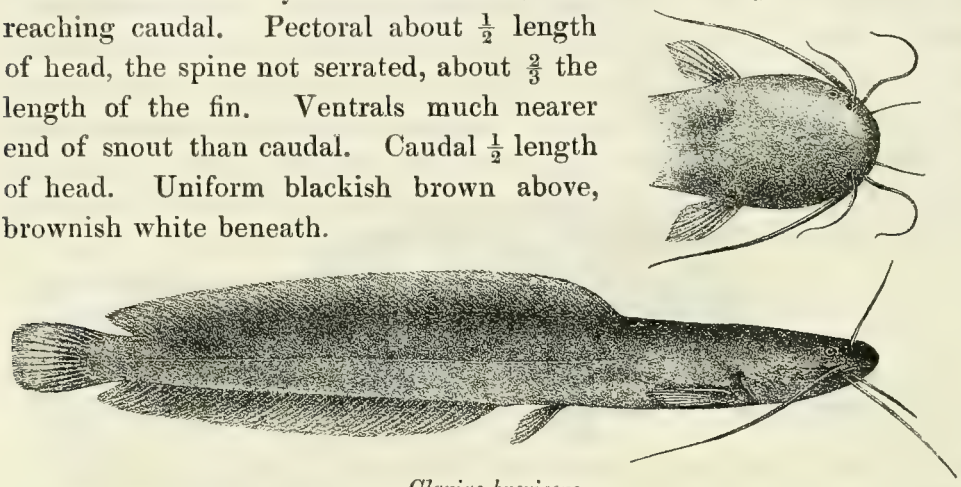
17. CLARIAS BREVICEPS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 135, pl. xlviii. fig. 6 (1900), Poiss. Bass. Congo, p. 258, pl. xiii. fig. 1 (1901), and Proc. Zool. Soc. 1907, p. 1080.

Depth of body 6 to 8 times in total length, length of head $4\frac{1}{2}$ to 5 times. Head $1\frac{1}{6}$ times as long as broad, smooth; occipital process angular; fontanelles small, the frontal sole-shaped and nearly $\frac{1}{5}$ length of head, the occipital oval and partly on the occipital process; eye very small, its diameter 3 times in length of snout, 6 times in interorbital width; width of mouth equal to interorbital width, $\frac{1}{2}$ length of head; vomerine teeth conical, forming a crescentic band which is as broad as the præmaxillary band; nasal barbel $\frac{3}{5}$ length of head; maxillary barbel as long as or a little longer than head, extending to extremity of pectoral; outer mandibular barbel about $1\frac{1}{2}$ length of inner, which measures

$\frac{3}{5}$ length of head. 20 gill-rakers on anterior arch. Clavicles not exposed. Dorsal 58–60, its distance from the occipital process $\frac{1}{2}$ length of head, its distance from caudal greater than diameter of eye. Anal 40–42, not reaching caudal. Pectoral about $\frac{1}{2}$ length of head, the spine not serrated, about $\frac{2}{3}$ the length of the fin. Ventrals much nearer end of snout than caudal. Caudal $\frac{1}{2}$ length of head. Uniform blackish brown above, brownish white beneath.

Fig. 205.



Clarias breviceps.
Type (A. M. C.). $\frac{2}{3}$.

Total length 190 millim.

Mayombe, West Africa.—Type in Congo Museum, Tervueren.

1. One of the types. Marshes of Siala Ntoto, Mayombe. Major Cabra (C.).

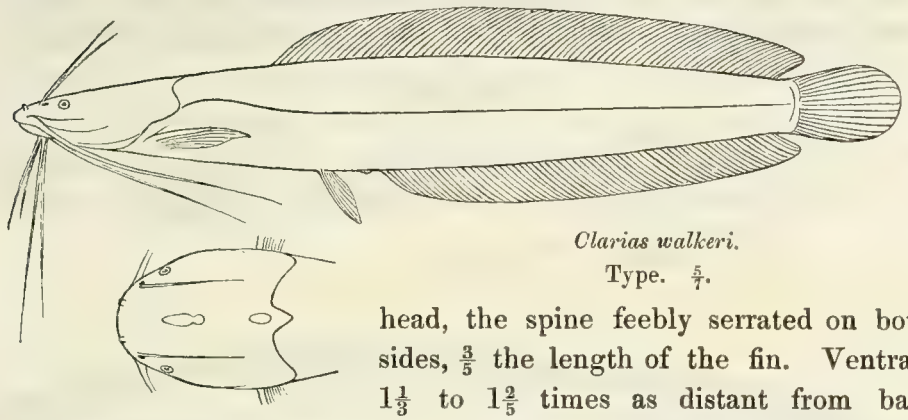
18. CLARIAS WALKERI.

Günth. Ann. & Mag. N. H. (6) xvii. 1896, p. 274, pl. xiv. fig. B ; Bouleng. Proc. Zool. Soc. 1907, p. 1080.

Depth of body 6 to 8 times in total length, length of head 4 to $4\frac{1}{2}$ times. Head $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, smooth above, or very finely granulate behind ; occipital process angular; frontal fontanelle small, sole-shaped ; occipital fontanelle smaller, in advance of or slightly encroaching upon occipital process ; eye very small, its diameter 3 to 4 times in length of snout, 6 to 8 times in interorbital width, which nearly equals width of mouth and is contained twice in length of head ; band of præmaxillary teeth 4 to 5 times as long as broad ; vomerine teeth conical, forming a crescentic band which, in the middle, is about as broad as the præmaxillary band ; nasal barbel $\frac{2}{3}$ to $\frac{3}{4}$ length of head ; maxillary barbel $1\frac{1}{2}$ to 2 times as long as head, reaching extremity of pectoral or base of ventral ; inner mandibular barbel a little shorter than nasal, $\frac{1}{2}$ to $\frac{3}{5}$ length of outer. Gill-rakers on first arch widely set, 12 to 15 in number. Clavicles concealed under the skin. Dorsal

70–80, its distance from occipital process $\frac{1}{3}$ to $\frac{1}{2}$ length of head, separated from caudal by an interspace at least as great as diameter of eye. Anal 52–60, narrowly separated from caudal. Pectoral $\frac{1}{2}$ to $\frac{3}{5}$ length of

Fig. 206.



Clarias walkeri.
Type. $\frac{5}{7}$.

head, the spine feebly serrated on both sides, $\frac{3}{5}$ the length of the fin. Ventrals $1\frac{1}{3}$ to $1\frac{2}{5}$ times as distant from base of caudal as from end of snout. Caudal about $\frac{1}{2}$ to $\frac{3}{5}$ length of head. Dark brown above, whitish beneath; dorsal and anal with a lighter edge.

Total length 290 millim.

South Cameroon to Ogowe.

1. Type.	Ogowe.	Miss Kingsley (C.).
2–3, 4–5. Ad. & hgr.	Sette Cama, Gaboon.	
6. Ad.	Gaboon.	
7–9. Hgr. & yg.	Corisco Id.	Miss Kingsley (C.).
10. Ad.	Benito R.	G. L. Bates, Esq. (C.).
11–14. Ad., hgr., & yg.	Kribi R., S. Cameroon.	,,
15. Hgr.	Zima County, ,,	,,
16–17. Hgr. & yg.	Ja R., ,,	,,

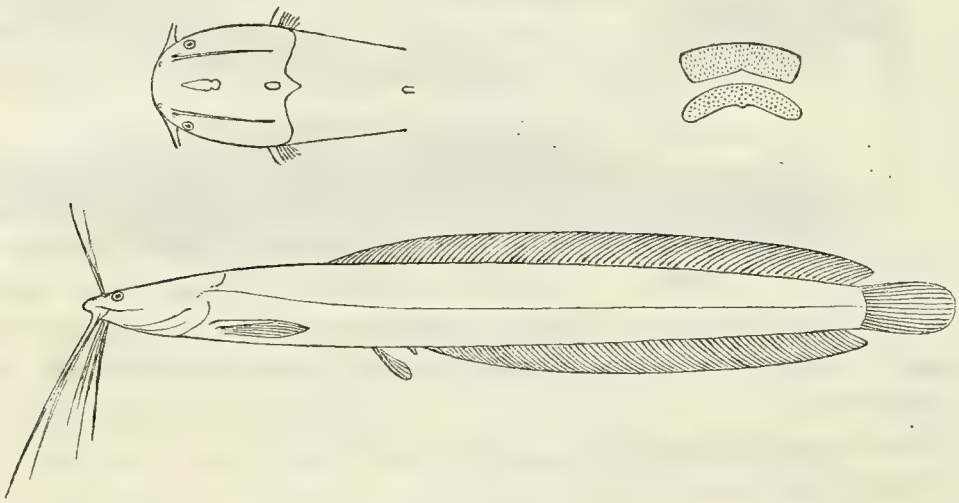
19. CLARIAS LONGIOR.

Bouleng. Ann. & Mag. N. H. (7) xx. 1907, p. 51, and Proc. Zool. Soc. 1907, p. 1081, fig.

Depth of body 8 to 9 times in total length, length of head 5 to $5\frac{1}{2}$ times. Head extremely depressed, $1\frac{1}{4}$ times as long as broad, smooth; occipital process very short, pointed; frontal fontanelle knife-shaped, about 3 times as long as broad; occipital fontanelle smaller, in advance of occipital process; eye very small, $2\frac{1}{2}$ times in length of snout, 5 or $5\frac{1}{2}$ times in interorbital width, which equals width of mouth and $\frac{1}{2}$ length of head; band of præmaxillary teeth 4 times as long as broad;

vomerine teeth granular, forming a curved band which is as broad as the præmaxillary band; nasal barbel $\frac{2}{3}$ to $\frac{3}{4}$ length of head, maxillary $1\frac{1}{4}$ to $1\frac{1}{2}$ times, outer mandibular once, inner mandibular $\frac{2}{5}$ to $\frac{2}{3}$. Gill-rakers very few, 12 on anterior arch. Clavicles concealed under the skin. Dorsal 80, its distance from occipital process $\frac{3}{5}$ to $\frac{2}{3}$ length of head, its distance from caudal equal to diameter of eye. Anal 70–73,

Fig. 207.



Clarias longior.
Type (P. Z. S. 1907). $\frac{1}{2}$.

nearly reaching caudal. Pectoral $\frac{3}{5}$ to $\frac{2}{3}$ length of head, the spine smooth and about $\frac{2}{3}$ the length of the fin. Ventral $1\frac{2}{3}$ to $1\frac{3}{4}$ times as distant from base of caudal and from end of snout. Caudal $\frac{2}{3}$ length of head. Dark brown above, whitish beneath.

Total length 225 millim.

South Cameroon.

1. Type.	Kribi R.	G. L. Bates, Esq. (C.).
2. Type.	Lobi R.	„

20. CLARIAS ANGOLENSIS.

Steind. Verh. zool.-bot. Ges. Wien, xvi. 1866, p. 766, pl. xiii. figs. 4 & 7; Bouleng. Poiss. Bass. Congo, p. 259 (1901), and Proc. Zool. Soc. 1907, p. 1082.

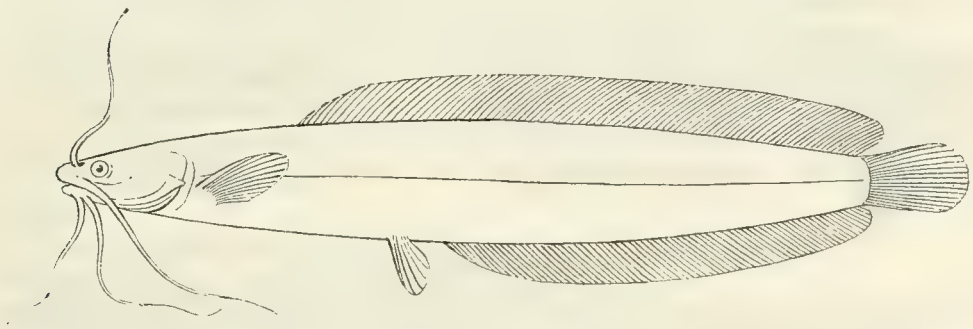
Clarias gabonensis, Günth. Ann. & Mag. N. H. (3) xx. 1867, p. 111, and (6) xvii. 1896, p. 274.

Clarias dolloi, Bouleng. Ann. & Mag. N. H. (6) xvii. 1896, p. 311.

Depth of body 6 to 7 times in total length, length of head $3\frac{1}{2}$ to $4\frac{1}{5}$ times. Head $1\frac{1}{2}$ times as long as broad, smooth or finely striated and

finely granulate; occipital process angular or rounded, as long as broad or broader than long; frontal fontanelle oval or sole-shaped, twice as long as broad; occipital fontanelle smaller, extending on the occipital process in the young; eye small, its diameter 3 to 4 times in length of snout, $4\frac{1}{2}$ to 6 times in interorbital width, which, like the width of the mouth, is about $\frac{2}{5}$ length of head; band of præmaxillary teeth nearly 4 times as long as broad; vomerine teeth conical or subgranular, forming a crescentic band which, in the middle, is about as broad as the præmaxillary band and may bear a short posterior process; nasal barbel nearly as long as head; maxillary barbel $1\frac{1}{2}$ to $1\frac{2}{3}$ times length of head,

Fig. 208.



Clarias angolensis. $\frac{5}{6}$.
Type, after Steindachner (*l. c.*).

reaching beyond pectoral, sometimes as far as ventral; inner mandibular barbel a little shorter than nasal, $\frac{3}{5}$ or $\frac{2}{3}$ length of outer. Gill-rakers on first arch fine, not very closely set, 25 to 30 in number. Clavicles exposed, striated or feebly granulated. Dorsal 70–82, its distance from occipital process $\frac{1}{4}$ or $\frac{1}{5}$ length of head, very narrowly separated from caudal. Anal 55–63, narrowly separated from caudal. Pectoral $\frac{1}{2}$ length of head, the spine serrated on both sides, $\frac{3}{4}$ to $\frac{4}{5}$ the length of the fin. Ventrals nearer end of snout than caudal. Caudal about $\frac{1}{2}$ length of head. Uniform dark brown or black, with more or less distinct light dots.

Total length 350 millim.

Lagos, Niger Delta, Cameroon, Gaboon, Congo, Angola.—Type in Vienna Museum.

1. Yg.	Odo Omi, head-water of Omi R., Lagos.	Major G. E. Bruce (P.).
2. Hgr.	Sapelle, Niger Delta.	Dr. W. J. Ansorge (C.).
3. Hgr.	Assay, „	„

4. Type of *C. gabonensis.*	Gaboon.	R. B. N. Walker, Esq. (C.).
5. Ad.	„	„
6. Hgr.	Sette Cama, Gaboon.	
7. Hgr.	Komadekke, Ogowe.	Dr. W. J. Ansorge (C.).
8–10. Yg.	Boma, Low. Congo.	M. P. Delhez (C.).
11. Yg.	Stanley Pool.	M. A. Greshoff (C.); Utrecht Museum (E.).
12. Hgr.	Leopoldville.	Drs. Dutton, Christy, and Todd (C.).
13. Skel.	L. Leopold II., Upp. Congo.	M. P. Delhez (C.).
14–15. Ad.	Bikoro, L. Tumba, „	„
16. Ad.	Monsembe, „	Rev. J. H. Weeks (P.).
17–19. Types of *C. dolloi.*	„ „	„
20. Ad.	Upper Congo.	Brussels University.
21. Yg.	Lindi R., Upp. Congo.	M. M. Storms (C.); Brussels Museum (P.).
22. Hgr.	Banzyville, Ubanghi.	Capt. Royaux (C.).

21. CLARIAS BYTHIPOGON.

Clarias buthupogon, Sauv. Bull. Soc. Philom. (7) iii. 1878, p. 96; Günth. Ann. & Mag. N. H. (6) xvii. 1896, p. 275; Bouleng. Poiss. Bass. Congo, p. 261 (1901), and Proc. Zool. Soc. 1907, p. 1082.

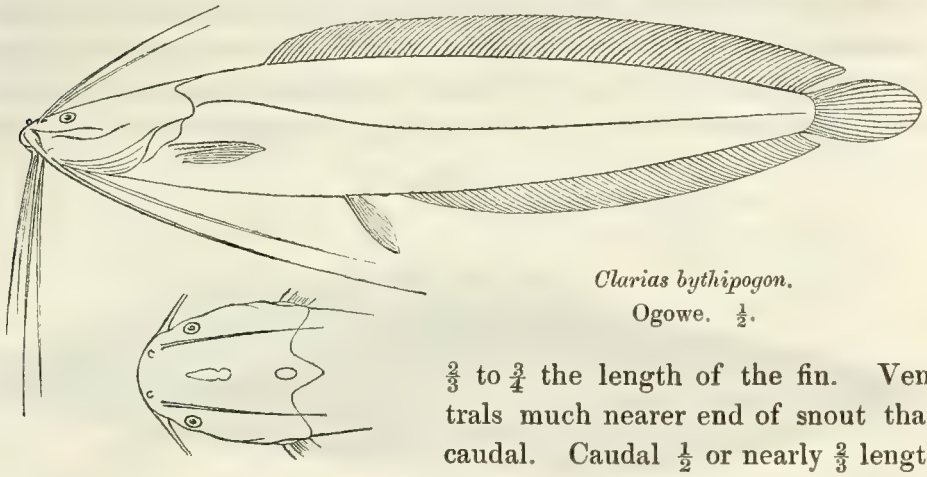
Clarias gabonensis (non Günth.), Sauv. N. Arch. Mus. (2) iii. 1880, p. 39, pl. i. fig. 2.

Clarias camerunensis, Lönnb. Övers. Vet.-Ak. Förh. Stockh. 1895, p. 192.

Depth of body 6 to 7 times in total length, length of head 4 to $4\frac{1}{4}$ times. Head $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, smooth above, or very finely granulate behind; occipital process angular; frontal fontanelle small, sole-shaped; occipital fontanelle smaller, partly on the occipital process; eye small, its diameter $2\frac{1}{2}$ times in length of snout, 4 or 5 times in interorbital width, which nearly equals width of mouth and is contained twice in length of head; band of præmaxillary teeth 4 to 5 times as long as broad; vomerine teeth conical, forming a crescentic band which is as broad as or narrower than the præmaxillary band; nasal barbel as long as or a little longer than head; maxillary barbel 2 to $2\frac{1}{2}$ times as long as head, reaching beyond base of ventral; inner mandibular barbel at least as long as head, about $\frac{2}{3}$ length of outer. 17–22 gill-rakers on anterior arch. Clavicles concealed under the skin. Dorsal 78–87, its distance from occipital process $\frac{2}{7}$ or $\frac{1}{3}$ length of head,

almost in contact with caudal. Anal 55–67, almost in contact with caudal. Pectoral $\frac{1}{2}$ to $\frac{3}{5}$ length of head, the spine serrated on both sides,

Fig. 209.



Clarias bythipogon.
Ogowe. $\frac{1}{2}$.

$\frac{2}{3}$ to $\frac{3}{4}$ the length of the fin. Ventrals much nearer end of snout than caudal. Caudal $\frac{1}{2}$ or nearly $\frac{2}{3}$ length of head. Olive-brown above, whitish beneath; anal fin with a dark edge.

Total length 230 millim.

Old Calabar to Congo.—Type in Paris Museum.

1. Ad.	Old Calabar.	Miss Kingsley (C.).
2–4. Ad. & hgr.	Assobam, Bumba R., S. Cameroon.	G. L. Bates, Esq. (C.).
5–6. Ad. & hgr.	Kondo-kondo, Ogowe.	Miss Kingsley (C.).
7, 8. Ad. & hgr.	Kinshassa, Stanley Pool.	M. A. Gresshoff (C.); Utrecht Museum (E.).
9. Ad.	Monsembe, Upp. Congo.	Rev. J. H. Weeks (P.).
10–11. Yg.	Lindi R., „	M. M. Storms (C.); Brussels Museum (P.).

22. CLARIAS ALLUAUDI.

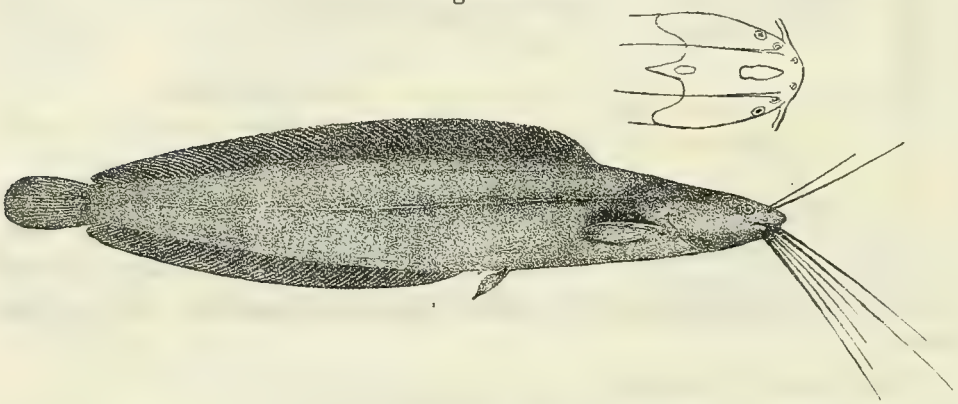
Clarias microphthalmus (non Pfeff.), Pellegr. Mém. Soc. Zool. France, xvii. 1905, p. 176.

Clarias alluaudi, Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 437, Fish. Nile, p. 296, pl. liii. fig. 2 (1907), and Proc. Zool. Soc. 1907, p. 1083.

Depth of body $5\frac{2}{3}$ to $6\frac{1}{2}$ times in total length, length of head 4 to $4\frac{1}{2}$ times. Head $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, smooth above; occipital process acutely pointed, longer than broad; frontal fontanelle twice as long as broad, about 4 times in length of head; occipital fontanelle small, extending on occipital process; eye 2 or $2\frac{1}{2}$ times in length of snout, 4 or 5 times in interorbital width; width of mouth a little less

than interorbital width; band of præmaxillary teeth about 4 times as long as broad; vomerine teeth conical, forming a crescentic band which is longer and a little broader than the band of præmaxillary teeth; nasal barbel as long as or a little longer than head; maxillary barbel $1\frac{1}{2}$ to $1\frac{2}{3}$ times length of head, reaching ventral or between pectoral and ventral; outer mandibular barbel $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as inner and about $1\frac{1}{3}$ length of head. Gill-rakers moderate, 14 or 15 on anterior arch. Clavicles hidden under the skin. Dorsal 65–78,

Fig. 210.



Clarias alluaudi.
Type (F. N.). $\frac{5}{7}$.

its distance from occipital process about $\frac{1}{4}$ length of head, extending to root of caudal. Anal 55–62, extending to root of caudal. Pectoral $\frac{1}{2}$ length of head, the spine serrated on both sides and about $\frac{2}{3}$ the length of the fin. Ventral $1\frac{1}{2}$ times as distant from root of caudal as from end of snout. Caudal about $\frac{1}{2}$ as long as head. Blackish brown above, lighter brown beneath.

Total length 230 millim.

Lake Victoria.

1. Type.	Kavirondo Bay.	M. Alluaud (C.); Paris Museum (E.).
2. Type.	Entebbe.	Mr. E. Degen (C.).
3–4. Types.	Bunjako.	,,

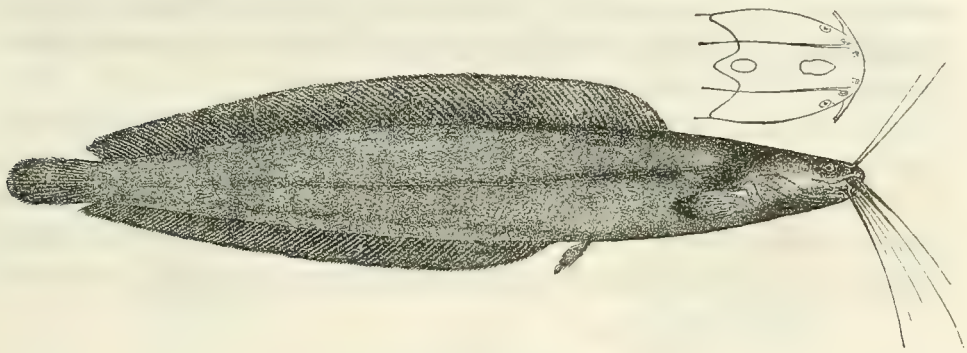
23. CLARIAS WERNERI.

Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 569; Werner, Sitzb. Ak. Wien, cxv. i. 1906, p. 1135, pl. iv.; Bouleng. Fish. Nile, p. 297, pl. liii. fig. 3 (1907), and Proc. Zool. Soc. 1907, p. 1084.

Depth of body $6\frac{1}{2}$ to 8 times in total length, length of head $4\frac{1}{2}$ to 5 times. Head about $1\frac{1}{2}$ times as long as broad, smooth or very feebly

granulate above; occipital process angular, not longer than broad; frontal fontanelle more or less distinctly sole-shaped, $1\frac{1}{2}$ to 2 times as long as broad, its length 4 to 5 times in that of the head; occipital fontanelle as large or a little smaller, oval or elliptic, partly on occipital process; eye 2 to 3 times in length of snout, 5 or 6 times in interorbital width; width of mouth a little less than interorbital width; band of præmaxillary teeth 3 to 4 times as long as broad; vomerine teeth granular, forming a crescentic band which is as broad as or a little

Fig. 211.



Clarias werneri.
Type (F. N.). $\frac{1}{2}$.

narrower than the præmaxillary band; nasal barbel nearly once to once and $\frac{1}{2}$ length of head; maxillary barbel $1\frac{1}{5}$ to 2 times length of head, reaching extremity of pectoral or beyond; outer mandibular barbel about $1\frac{1}{2}$ times as long as inner and equal to or longer than head. Gill-rakers moderate, 16–18 on anterior arch. Clavicles hidden under the skin. Dorsal 82–91, its distance from occipital process nearly $\frac{1}{3}$ length of head, in contact with or very narrowly separated from caudal. Anal 68–72, in contact with or very narrowly separated from caudal. Pectoral nearly $\frac{1}{2}$ length of head, the spine very feebly serrated on the outer border and about $\frac{2}{3}$ the length of the fin. Ventral $1\frac{3}{5}$ to $1\frac{3}{4}$ times as distant from root of caudal as from end of snout. Caudal about $\frac{1}{2}$ as long as head. Blackish brown above, lighter beneath.

Total length 230 millim.

Uganda.

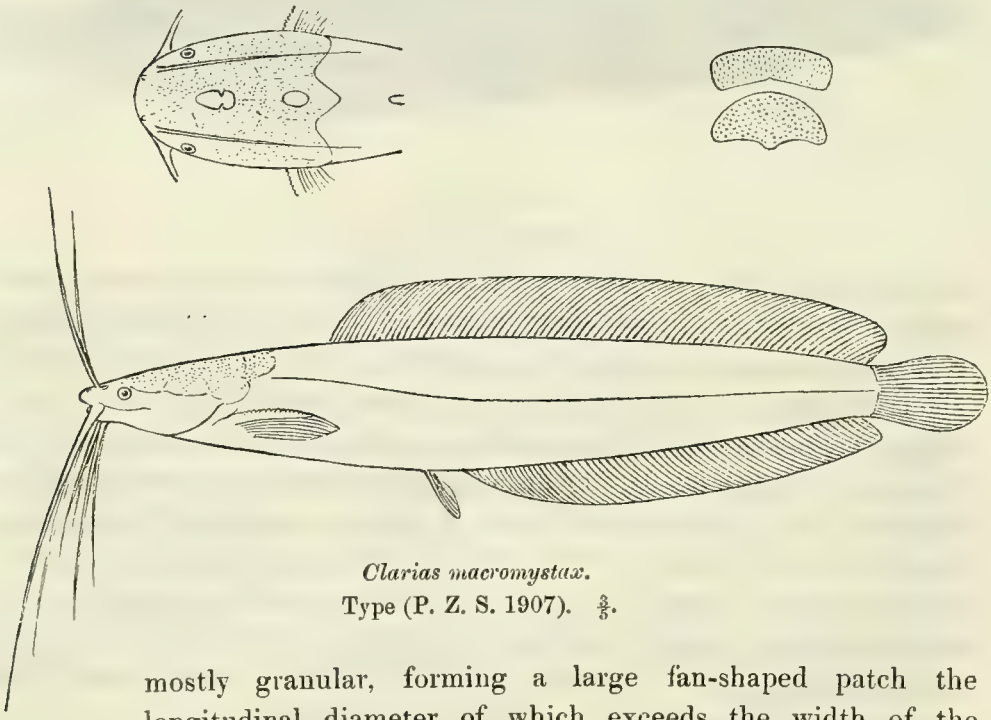
1. Type.	Near Gondokoro.	Dr. F. Werner (P.).
2–7. Ad. & yg.	Mpologoma R., L. Kioia.	Dr. E. Bayon (C.).
8–10. Types.	Bunjako, L. Victoria.	Mr. E. Degen (C.).
11. Type.	Buganga, „	„
12. Type.	Munyonyo, „	„
13. Ad.	Buddu coast of L. Victoria.	Mr. M. Simon (C.).

24. CLARIAS MACROMYSTAX.

Günth. Cat. Fish. v. p. 17 (1864); Bouleng. Proc. Zool. Soc. 1907, p. 1084, fig.

Depth of body $6\frac{1}{3}$ times in total length, length of head 4 times. Head $1\frac{1}{2}$ as long as broad, finely granulate above; occipital process angular; frontal fontanelle oval, not quite twice as long as broad; occipital fontanelle smaller, in advance of occipital process; eye small, its diameter 3 times in length of snout, $5\frac{1}{2}$ times in interorbital width, which equals width of mouth and $\frac{2}{5}$ length of head; band of præmaxillary teeth only 3 times as long as broad; vomerine teeth

Fig. 212.



Clarias macromystax.
Type (P. Z. S. 1907). $\frac{2}{5}$.

mostly granular, forming a large fan-shaped patch the longitudinal diameter of which exceeds the width of the præmaxillary band; nasal barbel as long as head; maxillary barbel $1\frac{1}{2}$ length of head, reaching nearly to base of ventral; inner mandibular barbel nearly as long as nasal, $\frac{2}{3}$ length of outer. Gill-rakers on first arch not closely set, 16 in number. Clavicles exposed, striated. Dorsal 80, its distance from occipital process $\frac{1}{4}$ length of head, very narrowly separated from caudal. Anal 63, very narrowly separated from caudal. Pectoral $\frac{1}{2}$ length of head, the spine strongly serrated

on both sides, $\frac{3}{4}$ the length of the fin. Ventrals much nearer end of snout than caudal. Caudal $\frac{1}{2}$ length of head. Dark brown.

Total length 205 millim.

Gambia.

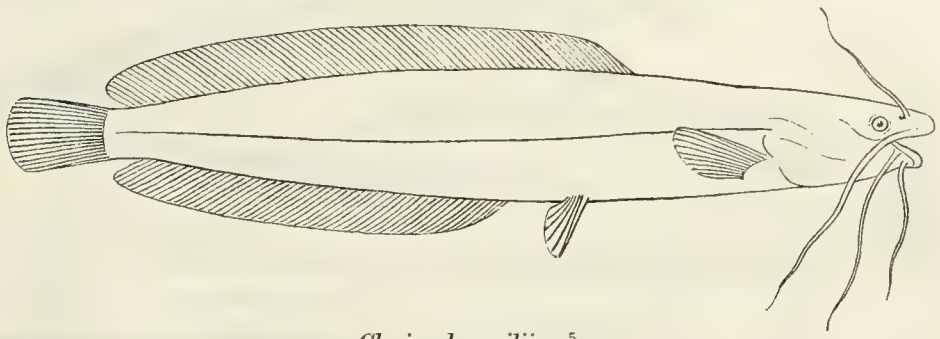
1. Type. Gambia. Mr. J. T. Dalton (C.).

25. CLARIAS DUMERILII.

Steind. Verh. zool.-bot. Ges. Wien, xvi. 1866, p. 766, pl. xiii. fig. 8, & pl. xiv. fig. 5; Bouleng. Proc. Zool. Soc. 1907, p. 1085.

Depth of body 6 to $7\frac{1}{2}$ times in total length, length of head 4 to $4\frac{1}{2}$ times. Head $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, smooth above; occipital process angular; frontal fontanelle sole-shaped, about twice as long as broad; occipital fontanelle smaller, usually extending on the occipital process; eye very small, its diameter 3 times in length of snout, 6 or 7 times in interorbital width, which, like the width of the mouth, measures $\frac{1}{2}$ length of head; band of præmaxillary teeth 4 times as long

Fig. 213.



Clarias dumerilii. $\frac{5}{6}$.
Type, after Steindachner (*l. c.*).

as broad; vomerine teeth conical or subgranular, forming a crescentic band which, in the middle, is a little narrower than the præmaxillary band; nasal barbel $\frac{2}{3}$ to $\frac{3}{4}$ length of head; maxillary barbel as long as or a little longer than head, reaching middle or end of pectoral fin; inner mandibular barbel $\frac{1}{2}$ to $\frac{2}{3}$ length of head, about $\frac{2}{3}$ length of outer. Gill-rakers on first arch not closely set, 12 to 15 in number. Clavicles concealed under the skin. Dorsal 66–72, its distance from occipital process about $\frac{1}{2}$ length of head, narrowly separated from caudal. Anal 49–55. Pectoral $\frac{1}{2}$ to $\frac{3}{5}$ length of head, the spine serrated on both

sides, about $\frac{1}{2}$ the length of the fin. Ventrals much nearer end of snout than caudal. Caudal about $\frac{3}{5}$ length of head. Uniform dark brown.

Total length 155 millim.

Angola, Old Calabar.—Types in Vienna Museum.

1–5. Ad.	Angola.	Dr. Welwitsch (P.).
6. Ad.	Fort Don Carlos I., Angola.	Dr. W. J. Ansorge (C.).
7. Ad.	Okwoga, Cross R.	R. D. Gard'ner, Esq. (P.).

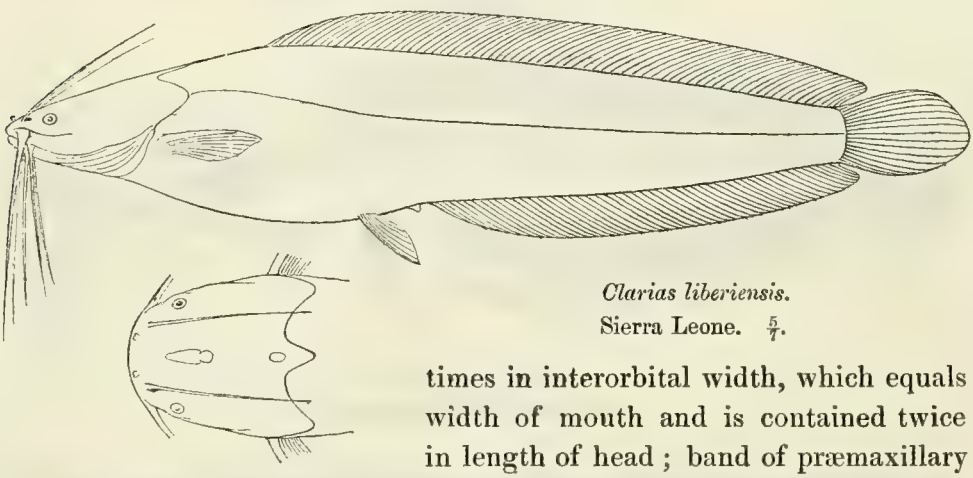
26. CLARIAS LIBERIENSIS.

Steind. Notes Leyd. Mus. xvi. 1894, p. 54; Bouleng. Proc. Zool. Soc. 1907, p. 1086.

Clarias bulumæ, Steind. t. c. p. 55.

Depth of body 5 to $6\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to $4\frac{1}{2}$ times. Head $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, smooth or very finely granulate above; occipital process angular; frontal fontanelle small, sole-shaped; occipital fontanelle smaller, just in advance of occipital process; eye very small, its diameter 3 times in length of snout, 7 or 8

Fig. 214.



Clarias liberiensis.
Sierra Leone. $\frac{5}{7}$.

times in interorbital width, which equals width of mouth and is contained twice in length of head; band of præmaxillary teeth 4 times as long as broad; vomerine teeth conical or subgranular, forming a crescentic band which is as broad as the præmaxillary band; nasal barbel $\frac{3}{4}$ to $\frac{4}{5}$ length of head; maxillary barbel a little longer (up to $1\frac{2}{3}$) than head, reaching nearly to end of pectoral fin or a little beyond; inner mandibular barbel as long as nasal, little shorter than outer. About 20 gill-rakers on the first arch. Clavicles concealed under the skin. Dorsal 60–68, its distance from occipital process $\frac{2}{5}$ length of head, almost in contact with caudal. Anal 44–45, almost in contact with caudal. Pectoral nearly $\frac{1}{2}$ length of head, the spine feebly serrated

on both sides, $\frac{2}{3}$ or $\frac{3}{4}$ the length of the fin. Ventrals much nearer end of snout than caudal. Caudal nearly $\frac{2}{3}$ length of head. Olive-brown.

Total length 220 millim.

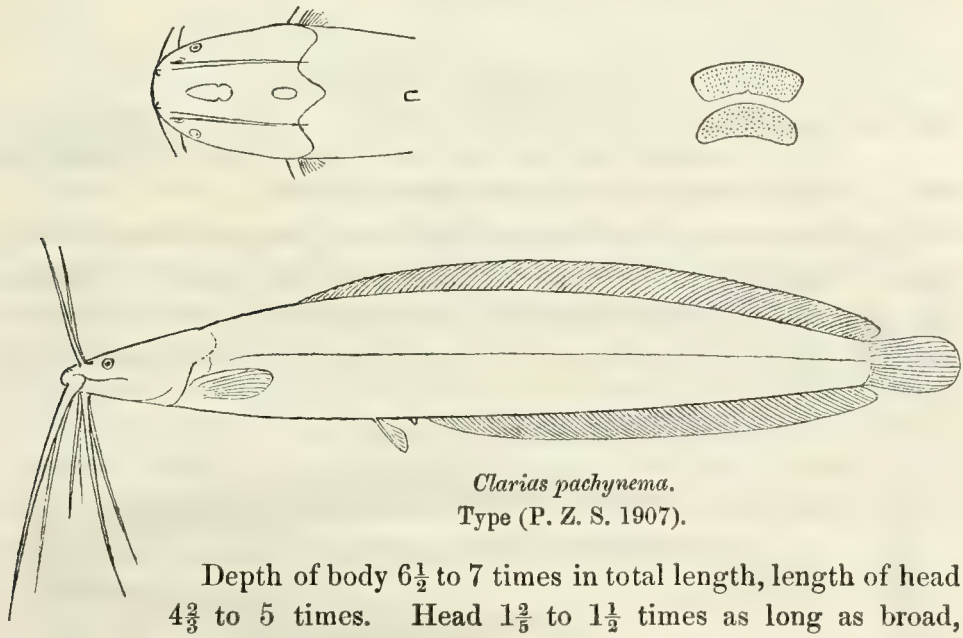
Sierra Leone, Liberia, S. Cameroon, Benito River.—Types in Leyden Museum.

1. Ad.	Sierra Leone.	
2, 3. Ad. & hgr.	Efulen, S. Cameroon.	G. L. Bates, Esq. (C.).
4. Skel.	„ „	„
5–6. Ad.	Benito R.	„

27. CLARIAS PACHYNEMA.

Boulenger. Ann. & Mag. N. H. (7) xii. 1903, p. 438, and Proc. Zool. Soc. 1907, p. 1086, fig.

Fig. 215.



Clarias pachynema.
Type (P. Z. S. 1907).

Depth of body $6\frac{1}{2}$ to 7 times in total length, length of head $4\frac{2}{3}$ to 5 times. Head $1\frac{2}{5}$ to $1\frac{1}{2}$ times as long as broad, smooth or very feebly granulate; occipital process acutely pointed; frontal fontanelle sole-shaped, about twice as long as broad; occipital fontanelle smaller, in advance of occipital process; eye very small, 3 to 4 times in length of snout, 6 times in interorbital width, which equals about $\frac{2}{5}$ length of head and exceeds width of mouth; band of præmaxillary teeth $2\frac{1}{2}$ to 3 times as long as broad; vomerine teeth conical, forming a short curved band which, in the middle, is as broad as the præmaxillary band; barbels thick and papillose at the base; nasal

barbel $\frac{3}{4}$ to $\frac{4}{5}$ length of head, maxillary $1\frac{1}{3}$ to $1\frac{1}{2}$ times, outer mandibular $1\frac{1}{4}$ to $1\frac{1}{3}$ times, inner mandibular $\frac{3}{4}$ to $\frac{4}{5}$. Gill-rakers few, about 15 on anterior arch. Clavicles concealed under the skin. Dorsal 92–95, its distance from occipital process $\frac{2}{3}$ to $\frac{1}{2}$ length of head. Anal 78–80. Dorsal and anal extending to root of caudal. Pectoral $\frac{1}{2}$ length of head, its spine feebly serrated on both sides and $\frac{2}{3}$ to $\frac{3}{4}$ the length of the fin. Ventrals about once and $\frac{3}{5}$ as distant from caudal as from end of snout. Caudal $\frac{1}{2}$ length of head. Dark olive-brown above, yellowish beneath.

Total length 255 millim.

South Cameroon.

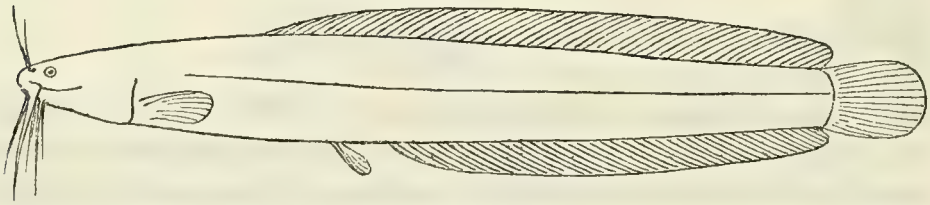
1–3. Types.	Ja R.	G. L. Bates, Esq. (C.).
4–6, 7–9. Ad., hgr., & yg.	,,	,,
10–11. Ad. & hgr.	,,	,,
12. Hgr.	Nyong R.	,,

28. CLARIAS LÆVICEPS.

Gill, Proc. Ac. Philad. 1862, p. 139 ; Sauv. Bull. Soc. Zool. France, 1882, p. 318, pl. v. fig. 2 ; Boulenq. Proc. Zool. Soc. 1904, i. p. 200, and 1907, p. 1087, fig.
Clarias kingsleyæ, Günth. Proc. Zool. Soc. 1902, ii. p. 334.

Depth of body $8\frac{1}{2}$ to 12 times in total length, length of head 5 to $5\frac{1}{2}$ times. Head $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, smooth; occipital process pointed; frontal fontanelle sole-shaped, about twice as long as broad; occipital fontanelle smaller, in advance of occipital process; eye

Fig. 216.



Clarias læviceps.
Cameroon (P. Z. S. 1907). $\frac{1}{2}$.

very small, 3 to 4 times in length of snout, 6 to 7 times in interorbital width, which equals $\frac{1}{2}$ length of head and a little exceeds width of mouth; band of præmaxillary teeth 4 to 5 times as long as broad; vomerine teeth conical, forming a curved band which is as broad as or a little narrower than the præmaxillary band; barbels moderately thick, nasal $\frac{1}{2}$ to $\frac{2}{3}$ length of head, maxillary $1\frac{1}{4}$ to $1\frac{3}{5}$ times, outer mandibular

once, inner mandibular $\frac{2}{3}$. Gill-rakers few, 15 to 20 on first arch. Clavicles concealed under the skin. Dorsal 79–87, its distance from occipital process $\frac{1}{2}$ to $\frac{2}{3}$ length of head. Anal 68–78. Dorsal and anal extending almost to the very root of the caudal. Pectoral $\frac{3}{5}$ to $\frac{2}{3}$ length of head, spine feebly serrated on outer side and $\frac{2}{3}$ to $\frac{3}{4}$ the length of the fin. Ventrals $1\frac{1}{2}$ to $1\frac{2}{3}$ times as far from caudal as from end of snout. Caudal $\frac{1}{2}$ to $\frac{2}{3}$ length of head. Uniform dark brown above, light brown beneath, in spirit.

Total length 270 millim.

Gold Coast, Cameroon.—Type (U.S. Nat. Mus) examined.

1. Type of *C. kingsleyæ.*	Odumasi, Gold Coast.	R. B. N. Walker, Esq. (C.); Dr. A. Günther (P.).
2. Type of *C. kingsleyæ.*	Infoan, R. Offin, Gold Coast.	,,
3–6, 7. Ad.	Kribi R., S. Cameroon.	G. L. Bates, Esq. (C.).
8. Ad.	Lobi R., ,,	,,

29. CLARIAS BUETTIKOFERI.

Steind. Notes Leyd. Mus. xvi. 1894, p. 53.

Depth of body 6 times in total length, length of head 4 times. Head nearly $1\frac{1}{3}$ as long as broad, nearly smooth above; occipital process pointed; eye very small, about 6 times in interorbital width, which is a little more than $\frac{1}{2}$ length of head; width of mouth $\frac{1}{2}$ length of head; vomerine teeth obtusely conical, forming a crescentic band which, in the middle, is as broad as the præmaxillary band; nasal barbel reaching middle of pectoral; maxillary barbel extending a little beyond end of pectoral. Dorsal 55, anal 50, the last ray completely adnate to the caudal. Pectoral a little more than $\frac{1}{2}$ length of head; spine short, serrated on the inner edge only. Dark reddish brown.

Total length 155 millim.

Liberia.

Only known from the description quoted above. The type specimen, I am informed by Mlle. Dr. Popta, is not to be found in the Leyden Museum, which is supposed to contain the types of the fishes discovered by Dr. Büttikofer.

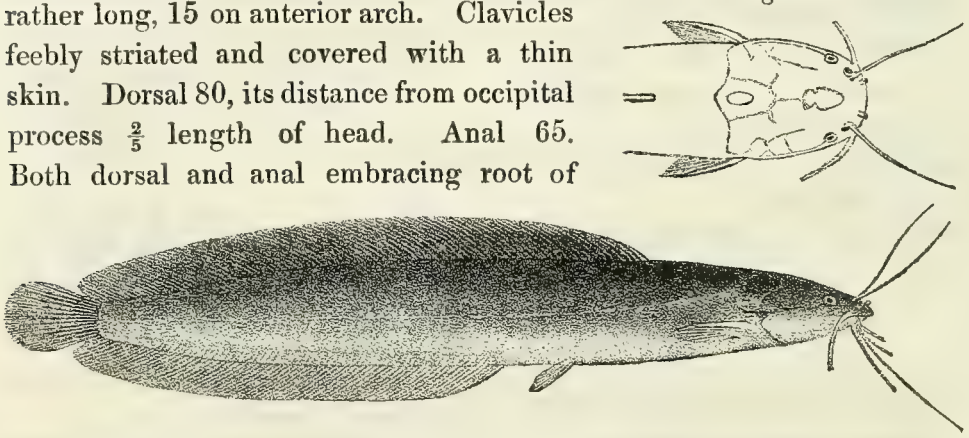
30. CLARIAS AMPLEXICAUDA.

Boulenger. Ann. Mus. Congo, Zool. ii. p. 36, pl. x. fig. 2 (1902), and Proc. Zool. Soc. 1907, p. 1088.

Depth of body 7 times in total length, length of head 5 times. Head

$1\frac{1}{4}$ times as long as broad, smooth; occipital process very short and forming a very open angle; frontal fontanelle sole-shaped, $\frac{1}{3}$ length of head; occipital fontanelle smaller, in advance of occipital process; eye $\frac{1}{2}$ length of snout, $\frac{1}{4}$ interorbital width, which is a little less than $\frac{1}{2}$ length of head and equals width of mouth; band of præmaxillary teeth 4 times as long as broad; vomerine teeth conical, forming a crescentic band which is as broad as the præmaxillary band; nasal barbel $\frac{4}{5}$ length of head *. Gill-rakers rather long, 15 on anterior arch. Clavicles feebly striated and covered with a thin skin. Dorsal 80, its distance from occipital process $\frac{2}{5}$ length of head. Anal 65. Both dorsal and anal embracing root of caudal. Pectoral $\frac{3}{5}$ length of head, its spine serrated on both sides and measuring $\frac{2}{3}$ the length of the fin. Ventrals once and $\frac{1}{2}$ as distant from caudal as from end of snout. Caudal a little more than $\frac{1}{2}$ length of head. Blackish brown above, a little lighter beneath.

Fig. 217.



Clarias amplexicauda.
Type (A. M. C.). $\frac{2}{3}$.

Total length 155 millim.

Upper Ubanghi.—Type in Congo Museum, Tervueren.

31. CLARIAS THEODORÆ.

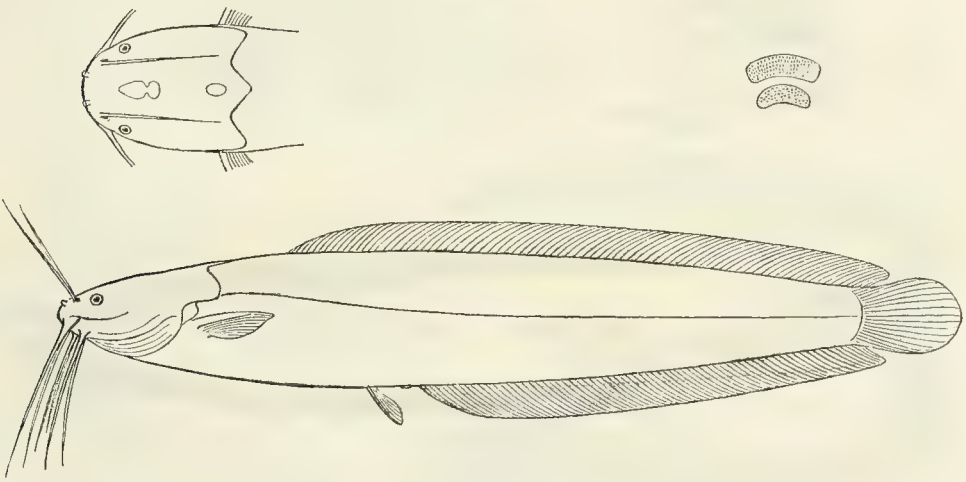
M. Weber, Zool. Jahrb., Syst. x. 1897, p. 150; Bouleng. Proc. Zool. Soc. 1907, p. 1089.

Depth of body 6 to 7 times in total length, length of head $4\frac{1}{2}$ to $5\frac{1}{4}$ times. Head $1\frac{2}{5}$ or $1\frac{1}{2}$ times as long as broad, smooth; occipital process angular, broader than long; frontal fontanelle sole-shaped, twice as long as broad and $\frac{1}{4}$ length of head; occipital fontanelle smaller, in advance of occipital process; eye very small, 3 times in length of snout, 5 to 6 times in interorbital width, which equals width of mouth and a little less than

* The other barbels are mutilated in the single known specimen.

$\frac{1}{2}$ length of head; band of præmaxillary teeth 4 times as long as broad; vomerine teeth conical, forming a curved band which is as broad as the præmaxillary band; nasal barbel $\frac{3}{4}$ to $\frac{4}{5}$ length of head; maxillary barbel as long as or a little longer than head, as long as outer mandibular. 14 gill-rakers on anterior arch. Clavicles feebly striated, distinct under the skin. Dorsal 80–90, its distance from occipital process $\frac{1}{3}$ length of head. Anal 67–73. Dorsal and anal embracing base of caudal.

Fig. 218.



Clarias theodoræ.
Umfulosi. $\frac{5}{7}$.

Pectoral about $\frac{1}{2}$ length of head, its spine feebly serrated on the outer side, strongly on the inner and measuring $\frac{1}{2}$ to $\frac{2}{3}$ the length of the fin. Ventrals $1\frac{1}{2}$ times as distant from caudal as from end of snout. Caudal about $\frac{1}{2}$ length of head. Greenish grey to blackish.

Total length 180 millim.

Natal, Zululand, Rhodesia.—Type in Amsterdam University Museum.

1. Ad. Umfulosi, Zululand. Dr. E. Warren (P.).

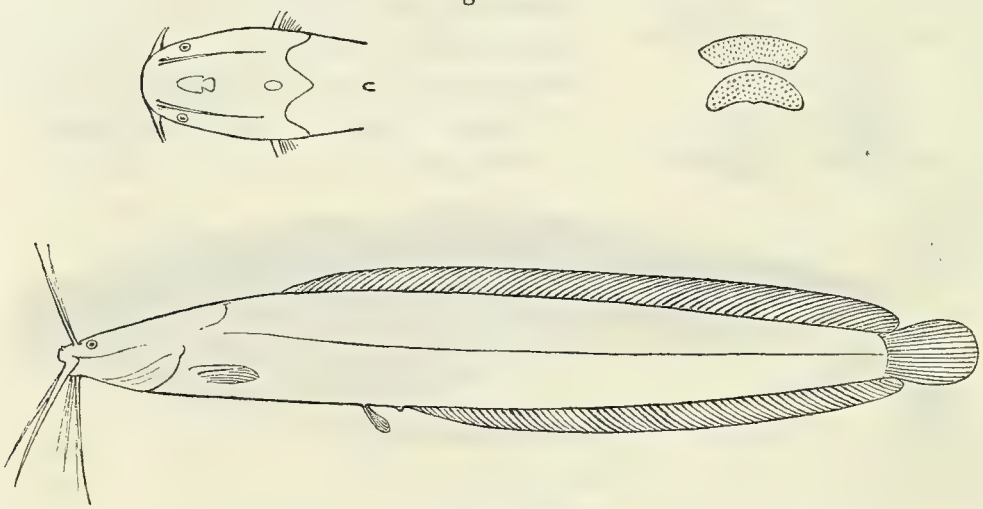
32. CLARIAS FOULONI.

Bouleng. Ann. & Mag. N. H. (7) xvi. 1905, p. 644, and Proc. Zool. Soc. 1907, p. 1089, fig.

Depth of body $6\frac{1}{2}$ times in total length, length of head 5 times. Head $1\frac{1}{2}$ times as long as broad, smooth; occipital process angular; frontal fontanelle sole-shaped, $\frac{1}{4}$ length of head, twice as long as occipital fontanelle, which is in advance of occipital process; eye 3 times in

length of snout, 5 times in interorbital width, which is about $\frac{1}{3}$ length of head and equals width of mouth; band of præmaxillary teeth 4 times as long as broad; vomerine teeth conical, forming a crescentic band which, in the middle, is a little broader than the præmaxillary band; nasal barbel $\frac{3}{5}$, maxillary $\frac{4}{5}$, outer mandibular $\frac{3}{4}$ length of head. Gill-rakers about 20 on anterior arch. Clavicles concealed under the skin. Dorsal 83, its distance from occipital process $\frac{1}{3}$ length of head.

Fig. 219.



Clarias fouloni.
Type (P. Z. S. 1907). $\frac{2}{5}$.

Anal 68. Both dorsal and anal embracing root of caudal. Pectoral $\frac{2}{5}$ length of head, its spine serrated on inner side only and measuring $\frac{3}{4}$ the length of the fin. Ventrals $1\frac{3}{4}$ times as distant from caudal as from end of snout. Caudal nearly $\frac{1}{2}$ length of head. Blackish brown, belly paler brown.

Total length 200 millim.

Lake Bangwelu.

1. Type. L. Bangwelu. F. H. Melland, Esq., & Father Foulon (P.).

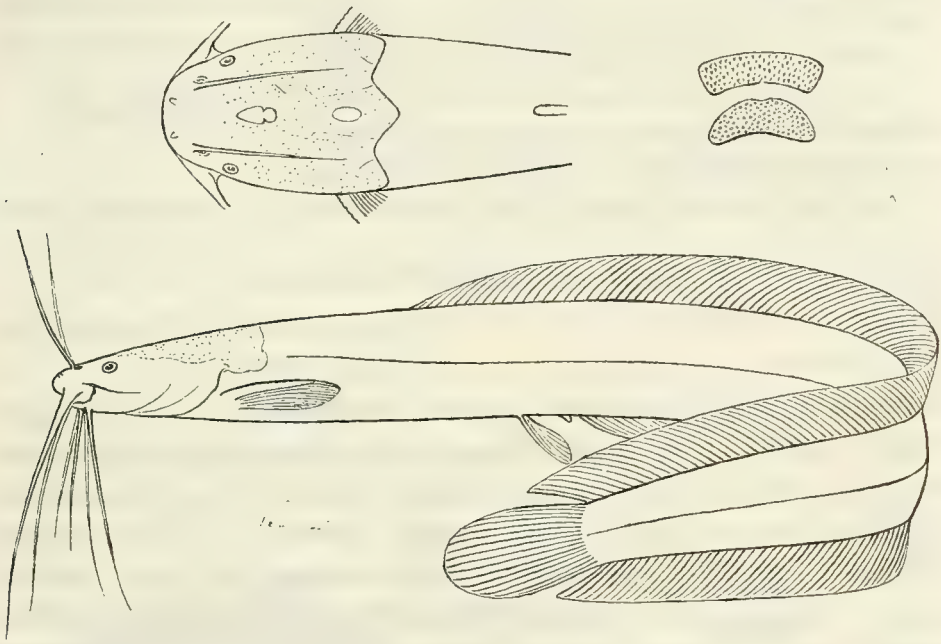
33. CLARIAS SALÆ.

Hubrecht, Notes Leyd. Mus. iii. 1881, p. 68; Steind. op. cit. xvi. 1894, p. 52; Bouleng. Proc. Zool. Soc. 1907, p. 1090, fig.

Depth of body 9 to 12 times in total length, length of head 5 to 6 times. Head about $1\frac{1}{2}$ times as long as broad, finely granulate above; occipital process short, rounded or obtusely pointed; frontal

fontanelle oval or sole-shaped, about twice as long as broad; occipital fontanelle smaller, in advance of occipital process; eye small, its diameter $2\frac{1}{2}$ to 3 times in length of snout, 4 to $5\frac{1}{2}$ times in interorbital width, which equals width of mouth and $\frac{2}{5}$ length of head; band of præmaxillary teeth 4 times as long as broad; vomerine teeth conical,

Fig. 220.



Clarias salæ.
Type (P. Z. S. 1907). $\frac{1}{3}$.

forming a crescentic band which is nearly as broad as the præmaxillary band; nasal barbel $\frac{2}{3}$ length of head; maxillary barbel a little longer than head, reaching end of pectoral; inner mandibular barbel $\frac{3}{5}$ length of head, nearly $\frac{2}{3}$ length of outer. Gill-rakers few, 8 to 10 on first arch. Clavicles distinct under the thin skin, striated. Dorsal 89–93, its distance from occipital process $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal 70–78. Dorsal and anal connected with base of caudal by a narrow membrane. Pectoral $\frac{1}{2}$ length of head, the spine strongly serrated on both sides, $\frac{3}{4}$ the length of the fin. Ventrals nearly twice as far from caudal as from end of snout. Caudal $\frac{3}{5}$ length of head. Blackish brown or dark green above, with or without small yellowish spots.

Total length 360 millim. Reaches to 435 millim.

Liberia.—Types in Leyden Museum.

1–2. Two of the types. Liberia. Dr. Büttikofer (C.).

2. ALLABENCHELYS.

Bouleng. Proc. Zool. Soc. 1902, i. p. 234, and 1907, p. 1091.

Characters of *Clarias*, but casque less developed, the sides of the head naked, only the postorbital shield being present. Dorsal and anal reaching caudal. Vertebræ 68–70.

Two species :—

Depth of body 7–8½ times, head 5–5½ times in total length ; ventrals 1½–1⅔ as distant from root of caudal as from end of snout ; D. 65–75, A. 60–65. 1. *A. brevior*, p. 266.

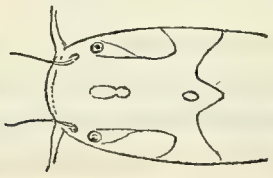
Depth of body 9–12 times, head 5½–6 times in total length; ventrals 1¾–2 as distant from root of caudal as from end of snout; D. 80–90, A. 60–75. 2. *A. longicauda*, p. 267.

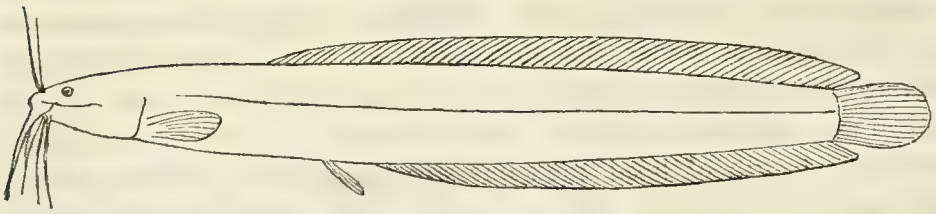
1. ALLABENCHELYS BREVIOR.

Bouleng. Ann. & Mag. N. H. (7) xii. 1903, p. 439, and Proc. Zool. Soc. 1907, p. 1091, fig.

Depth of body 7 to 8½ times in total length, length of head 5 to 5½ times. Head 1¼ to 1⅓ times as long as broad, smooth above, the bony casque, in the middle of the head, about ½ width of head ; postorbital bone narrow ; occipital process acutely pointed ; a small frontal fontanelle ; occipital fontanelle a little smaller, partly on occipital process ; eye very small, 2½ to 3 times in length of snout, 5 to 6 times in interorbital width, which is ⅖ length of head ; band of præmaxillary teeth 3 to 4 times as long as broad ; vomerine teeth conical or subgranular, forming a crescentic band which is as broad as or a little broader than the præmaxillary band ; nasal barbel ⅗ to ⅔ length of head ; maxillary barbel as long as or a little shorter than head, not reaching beyond middle of pectoral fin ; outer mandibular barbel ⅔ to ¾

Fig. 221.





Allabenchelys brevior.
Type (P. Z. S. 1907). ⅗.

length of head, inner $\frac{1}{2}$ to $\frac{3}{5}$. Gill-rakers moderately long, 10 to 12 on anterior arch. Clavicles hidden under the skin. Dorsal 65–75, its distance from occipital process $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Anal 60–65. Both dorsal and anal narrowly separated from caudal. Pectoral about $\frac{1}{2}$ length of head, its spine feebly serrated on both sides and $\frac{1}{2}$ to $\frac{2}{3}$ the length of the fin. Ventrals $1\frac{1}{2}$ to $1\frac{2}{3}$ times as distant from root of caudal as from end of snout. Caudal $\frac{1}{2}$ to $\frac{3}{5}$ length of head. Olive-brown above, yellowish beneath; anal with a light edge.

Total length 205 millim.

South Cameroon.

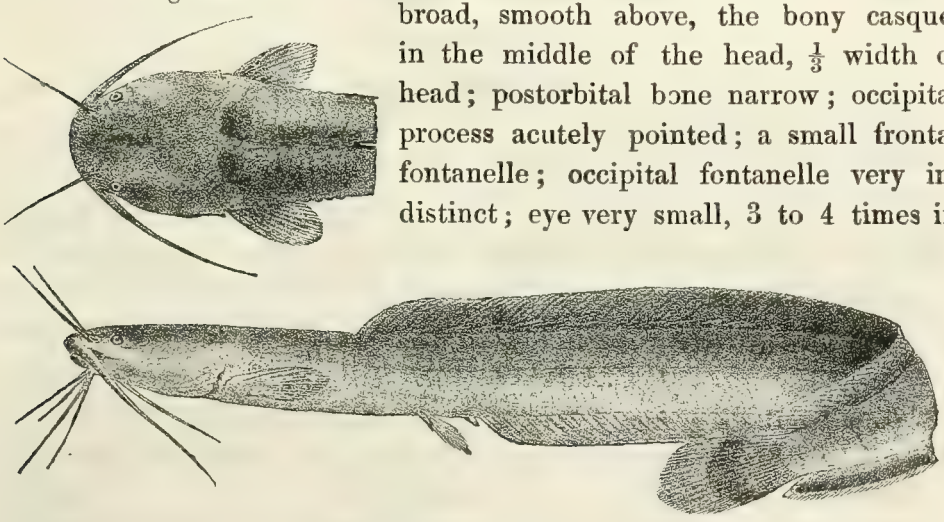
1–2. Types.	Ja R.	G. L. Bates, Esq. (C.).
3–4. Ad.	,,	,,
5. Skel.	,,	,,
6–9. Ad. & hgr.	Nyong R.	,,

2. ALLABENCHELYS LONGICAUDA.

Bouleng. Proc. Zool. Soc. 1902, i. p. 234, pl. xxii. fig. 1, and 1907, p. 1092.

Depth of body 9 to 12 times in total length, length of head $5\frac{1}{2}$ to 6 times. Head $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, smooth above, the bony casque, in the middle of the head, $\frac{1}{3}$ width of head; postorbital bone narrow; occipital process acutely pointed; a small frontal fontanelle; occipital fontanelle very indistinct; eye very small, 3 to 4 times in length of snout, 6 times in interorbital width, which is not quite $\frac{1}{2}$ length of head; band of præmaxillary teeth 4 to 5 times as long as broad; vomerine teeth conical or subgranular, forming a crescentic

Fig. 222.



Allabenchelys longicauda.
Type (P. Z. S. 1902). $\frac{3}{5}$.

band which is as broad as or a little broader than the præmaxillary band; nasal barbel $\frac{1}{2}$ to $\frac{2}{3}$ length of head; maxillary barbel as long as or a little longer than head, reaching middle or extremity of pectoral fin; outer mandibular barbel $\frac{2}{3}$ to once length of head, inner mandibular $\frac{1}{2}$ to $\frac{3}{5}$. Gill-rakers moderately long, 10 to 12 on anterior arch. Clavicles hidden under the skin. Dorsal 80–90, its distance from the occipital process $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Anal 60–75. Both dorsal and anal very narrowly separated from caudal. Pectoral $\frac{1}{2}$ to $\frac{3}{5}$ length of head, spine smooth or slightly serrated. Ventrals $1\frac{3}{4}$ to 2 times as distant from root of caudal as from end of snout. Caudal about $\frac{2}{3}$ length of head. Dark olive-brown above, whitish beneath, anal with a light edge; an ill-defined, dark, light-edged crescentic band on the caudal.

Total length 280 millim.

South Cameroon.

1. Type.	Ja R.	G. L. Bates, Esq. (C.).
2, 3–4. Ad.	„	„
5. Skel.	„	„
6, 7. Ad.	Kribi R.	„
8. Ad.	Zima Country.	„

3. CLARIALLABES.

Bouleng. Ann. Mus. Congo, Zool. i. 1900, p. 136, Poiss. Bass. Congo, p. 262 (1901), and Proc. Zool. Soc. 1907, p. 1092.

Differs from the preceding in the eye being without free border. Dorsal and anal united with caudal. Ventrals small. Vertebræ 76.

A single species.

1. CLARIALLABES MELAS.

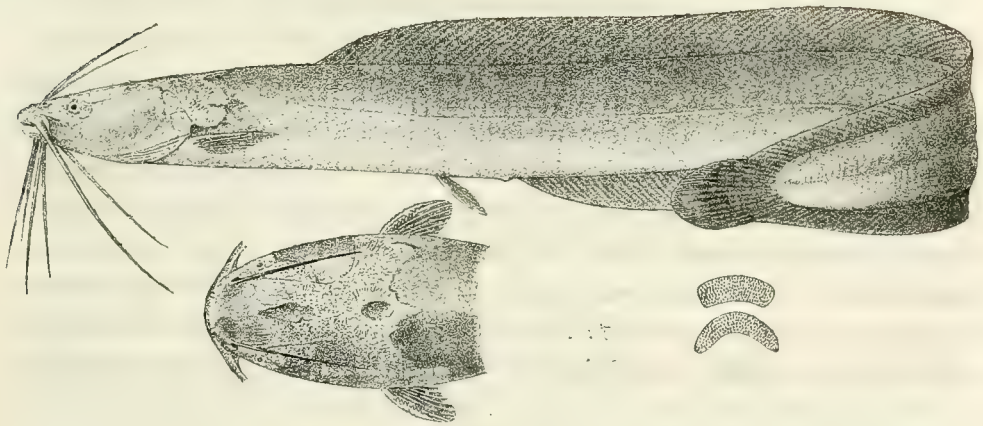
Clarias melas, Bouleng. Ann. & Mag. N. H. (5) xix. 1887, p. 148.

Clariallabes melas, Bouleng. ll. cc. and Proc. Zool. Soc. 1902, i. pl. xxii. fig. 2, and 1907, p. 1093.

Depth of body 10 to 11 times in total length, length of head 6 times. Head $1\frac{1}{2}$ times as long as broad, smooth, the bony casque, in the middle, about $\frac{1}{2}$ width of head; occipital process acutely pointed; frontal fontanelle sole-shaped, twice and $\frac{1}{2}$ as long as broad; occipital fontanelle smaller, oval, partly on occipital process; eye very small, its diameter 4 times in length of snout, 7 times in interorbital width, which

is $\frac{1}{3}$ length of head and a little less than width of mouth; band of præmaxillary teeth hardly 4 times as long as broad; vomerine teeth pointed, forming a crescentic band which is a little narrower than the præmaxillary band; nasal barbel $\frac{3}{5}$ to $\frac{2}{3}$ length of head; maxillary barbel nearly as long as head; inner mandibular barbel $\frac{2}{3}$ to $\frac{4}{5}$ length of head, outer nearly as long as head. Gill-rakers moderately long, 12 to 15 on anterior arch. Clavicles scarcely distinguishable under the skin.

Fig. 223.



Clariallabes melas.
Type. $\frac{2}{3}$.

Dorsal 105–115, its distance from occipital process $\frac{1}{2}$ length of head. Anal 88–90. Both dorsal and anal united with caudal, which measures $\frac{1}{2}$ length of head. Pectoral nearly $\frac{1}{2}$ length of head, its spine serrated on both edges and about $\frac{2}{3}$ the length of the fin. Ventral $1\frac{2}{3}$ to 2 times distant from root of caudal as from end of snout. Uniform blackish brown.

Total length 260 millim.

Lower Congo.

1. Type.	Lower Congo.	M. F. Hens (C.).
2. Hgr.	Congo?	
3. Skel.	„	

4. GYMNALLABES.

Günth. Ann. & Mag. N. H. (3) xx. 1867, p. 111 ; Bouleng. Proc. Zool. Soc. 1907, p. 1093.

Degraded, anguilliform *Clarias*, with the sides of the head unprotected by bone, even the postorbital shield being absent, the pectoral and ventral fins very small, no free border to the eye, and the dorsal and anal completely united with the caudal.

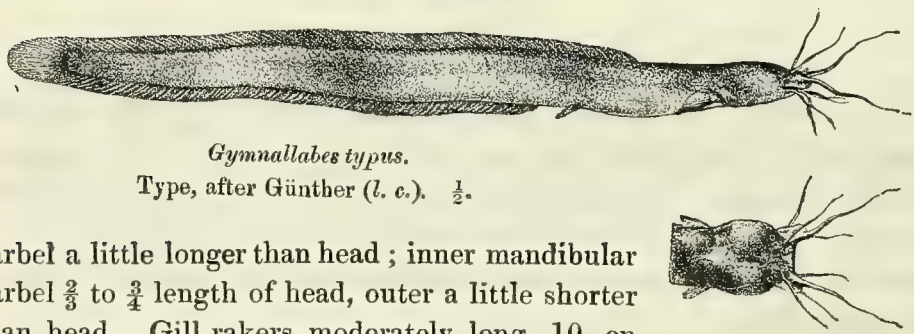
A single species.

1. GYMNALLABES TYPUS.

Günth. l. c. pl. ii. fig. A ; Bouleng. l. c.

Depth of body 14 to 15 times in total length, length of head $7\frac{1}{2}$ to $8\frac{1}{2}$ times. Head about $1\frac{1}{2}$ times as long as broad, the width of the bony part, in the middle, $\frac{1}{7}$ to $\frac{1}{5}$ width of head; occipital process acutely pointed; eye very small; interorbital width less than width of mouth, about $\frac{1}{3}$ length of head; band of præmaxillary teeth 3 to $3\frac{1}{2}$ times as long as broad; vomerine teeth pointed, forming a crescentic band which is narrower than the præmaxillary band; a much developed lobe at the angle of the mouth; nasal barbel $\frac{2}{3}$ to $\frac{5}{6}$ length of head; maxillary barbel a little longer than head; inner mandibular barbel $\frac{2}{3}$ to $\frac{3}{4}$ length of head, outer a little shorter than head. Gill-rakers moderately long, 10 on anterior arch. Clavicles hidden under the skin. Dorsal 98–110, its distance from occipital process $\frac{3}{5}$ to $\frac{3}{4}$ length of head. Anal 82–88. Dorsal and anal completely united with caudal, which is $\frac{2}{3}$ to $\frac{5}{6}$ length of head. Pectoral $\frac{1}{3}$ to $\frac{2}{5}$ length of head, with a very short smooth spine. Ventral 2 to $2\frac{1}{2}$ times as distant from root of caudal as from end of snout. Uniform blackish brown, lighter brown on the belly.

Fig. 224.



Gymnallabes typus.
Type, after Günther (*l. c.*). $\frac{1}{2}$.

Total length 230 millim.

Lower Niger and Old Calabar.

1–2. Types.	Old Calabar.	
3. Ad.	Ossomari, S. Nigeria.	Dr. W. J. Ansorge (C.).

Under the name of *G. typus*, forma *heterocercalis*, Lönnberg, Öfvers. Vet.-Akad. Förh. Stockholm, 1895, p. 184, has noticed a fish from Cameroon which differs from Günther's description and figure in the somewhat turned up caudal fin, giving it a heterocercal appearance, and in having the pectoral spine serrated on both sides.

5. CHANNALLABES.

Günth. Ann. & Mag. N. H. (4) xii. 1873, p. 143 ; Bouleng. Poiss. Bass. Congo, p. 263 (1901), and Proc. Zool. Soc. 1907, p. 1094.

Closely allied to the preceding, but still more degraded and eel-shaped; pectoral fin rudimentary or absent, ventrals absent.

Vertebræ 107.

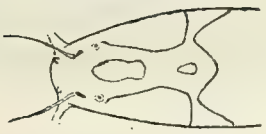
A single species.

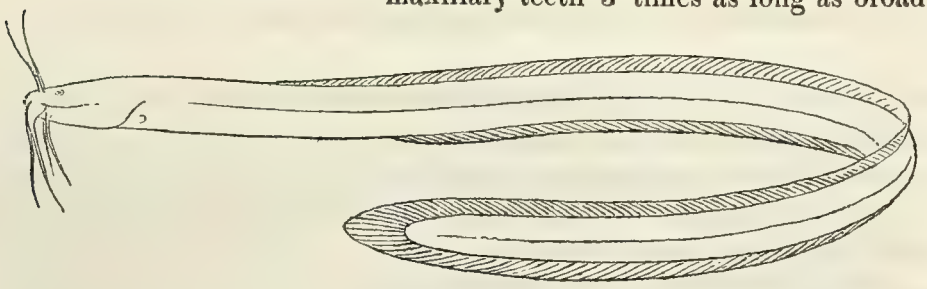
1. CHANNALLABES APUS.

Gymnallabes apus, Günth. t. c. p. 142.
Channallabes apus, Bouleng. ll. cc. pp. 264 and 1094, fig.

Body extremely elongate and serpentiform; length of head 10 to 14 times in total length. Head $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as broad; occipital process acutely pointed; a sole-shaped frontal fontanelle; an oval occipital fontanelle, partly on the occipital process; eye extremely small, nearly hidden under the skin in the adult; band of præmaxillary teeth 3 times as long as broad;

Fig. 225.





Channallabes apus.
Type (P. Z. S. 1907). $\frac{2}{3}$.

vomerine teeth pointed, forming a crescentic band which is a little narrower; nasal barbel $\frac{3}{5}$ to $\frac{2}{3}$ length of head; maxillary barbel as long as head or slightly shorter; inner mandibular barbel a little shorter than the nasal, outer mandibular a little shorter than the

maxillary. Gill-rakers moderately long, 9 to 10 on anterior arch. Dorsal 140–150, separated from occipital process by a space equal to or greater than length of head. Anal 125–130. Dorsal and anal completely united with caudal. Pectoral absent or reduced to a minute rudiment without spine. No trace of ventral. Vent at the anterior fourth of the total length. Uniform dark brown or black.

Total length 310 millim.

Congo and Angola.

1. Type.	Ambriz, Angola.	J. J. Monteiro, Esq. (C.).
2. Ad.	Siala Ntoto, Mayombe.	Major Cabra (C.).
3–5. Hgr.	Lower Congo.	M. F. Hens (C.).
6. Yg.	Monsembe, Upp. Congo.	Rev. J. H. Weeks (P.).
7. Skel.	„ „	„
8. Ad.	New Antwerp, Upp. Congo.	Capt. Wilverth (C.).
9. Ad.	Stanley Falls, „	Rev. W. H. Bentley (C.).
10. Hgr.	Banzyville, Ubanghi.	Capt. Royaux (C.).
11. Ad.	Congo?	

6. HETEROBRANCHUS.

Geoffr. Descr. Egypte, Poiss. (1809), part.; Günth. Cat. Fish. v. p. 21 (1864); Bouleng. Poiss. Bass. Congo, p. 265 (1901), Fish. Nile, p. 300 (1907), and Proc. Zool. Soc. 1907, p. 1094.

Distinguished from *Clarias* by the division of the dorsal fin into two parts, the posterior adipose and supported by the prolongations of the neural spines.

Vertebræ 60–65.

Three species from Africa, and one from the Malay Archipelago.

Synopsis of the Species.

D. 38–45; adipose fin $\frac{2}{5}$–$\frac{2}{3}$ length of rayed dorsal; pectoral not more than $\frac{1}{2}$ length of head; 20–30 gill-rakers on anterior arch.	1. *H. bidorsalis*, I. Geoffr., p. 273.
D. 29–34; adipose fin as long as or a little shorter than rayed dorsal; pectoral not more than $\frac{1}{2}$ length of head; 20–30 gill-rakers on anterior arch	2. *H. longifilis*, C. & V., p. 274.
D. 30–32; adipose fin as long as or a little shorter than rayed dorsal; pectoral $\frac{3}{5}$ length of head; 18–20 gill-rakers on anterior arch	3. *H. isopterus*, Blkr., p. 276.

1. HETEROBRANCHUS BIDORSALIS.

I. Geoffr. Descr. Egypte, Poiss. p. 305, pl. xvi. figs. 2 & 5, & pl. xvii. figs. 8 & 9 (1827); Günth. Petherick's Trav. ii. p. 220 (1869); Bouleng. Fish. Nile, p. 300, pl. liv. fig. 1 (1907), and Proc. Zool. Soc. 1907, p. 1095.

Heterobranchus geoffroyi, Cuv. & Val. Hist. Poiss. xv. p. 392 (1840).

Heterobranchus senegalensis, Cuv. & Val. t. c. p. 397; Steind. Sitzb. Ak. Wien, lx. 1869, p. 980.

Heterobranchus intermedius, Günth. Cat. Fish. v. p. 22 (1864), and l. c.

Depth of body 6 to 9 times in total length, length of head $2\frac{4}{5}$ to $3\frac{1}{4}$ times. Head very strongly depressed, $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as broad, its upper surface coarsely granulate in the adult; occipital process pointed, sometimes very obtusely; frontal fontanelle knife-shaped, 3 to 4 times as long as broad, 3 to 5 times in length of head; occipital fontanelle small, in advance of occipital process; eye 3 (young) to $6\frac{1}{2}$ times in length of snout, 6 to $10\frac{1}{2}$ times in interorbital width; width of mouth a little less than interorbital width; band of præmaxillary teeth about 5 times as long as broad; vomerine teeth also villiform, forming a

Fig. 226.

Heterobranchus bidorsalis.
White Nile (F. N.). $\frac{1}{6}$.

crescentic band which is $1\frac{1}{4}$ to $1\frac{1}{2}$ times as broad as the præmaxillary band and may have a small central posterior process; nasal barbel $\frac{2}{3}$ to once length of head; maxillary barbel $\frac{4}{5}$ to $1\frac{6}{7}$ times length of head, extending to extremity of pectoral or between this point and root of ventral; outer mandibular barbel $1\frac{1}{10}$ to $1\frac{1}{2}$ times as long as inner, which measures 1 to $1\frac{1}{2}$ times length of head. Gill-rakers rather short, 20 to 30 on anterior arch. Dorsal 38–45, its distance from occipital process $\frac{1}{10}$ to $\frac{1}{6}$ length of head; adipose dorsal $\frac{2}{5}$ to $\frac{2}{3}$ as long as, as deep as or lower than, and commencing immediately behind, rayed dorsal, extending to base of caudal. Anal 50–57, extending to base of caudal. Pectoral $\frac{2}{5}$ to $\frac{1}{2}$ length of head, the spine smooth

and measuring $\frac{2}{3}$ to $\frac{3}{4}$ the length of the fin. Ventral midway between end of snout and base of caudal, or a little nearer the latter. Caudal $\frac{2}{5}$ to $\frac{1}{2}$ length of head. Dark olive above, whitish beneath; a dull orange or red edge to the dorsal, adipose, and caudal fins.

Total length 770 millim.; grows to 1220.

Nile, Chad Basin, Senegal, Niger.—Type (Paris Museum) apparently lost.

1, 2. Types of *H. intermedius.*	Khartum.	J. Petherick, Esq. (C.).
3. Skel.	„	„
4, 5. Ad. & hgr.	Goz Shebesha, White Nile.	L. Loat, Esq. (C.).
6. Hgr.	Goz abu Gumah, „	„
7. Ad., head.	„ „	„
8. Hgr.	Fashoda, „	„
9. Hgr.	R. Shari-wasu at Maidugari.	Capt. G. B. Gosling (P.).
10. Ad., head.	Shari.	„
11–13. Ad. & hgr.	Kaëdi, Senegal.	M. P. Delhez (C.).
14–15. Ad. & hgr.	Niger.	W. A. Forbes, Esq. (P.).

2. HETEROBRANCHUS LONGIFILIS.

Cuv. & Val. Hist. Poiss. xv. p. 394, pl. cccexlvii. (1840); Günth. Cat. Fish. v. p. 22 (1864), and Petherick's Trav. ii. p. 221 (1869); Bouleng. Fish. Nile, p. 303, pl. liv. fig. 2 (1907), and Proc. Zool. Soc. 1907, p. 1095.

Heterobranchus laticeps, Peters, Mon. Berl. Ac. 1852, p. 682, and Reise Mossamb. iv. p. 37, pl. vii. fig. 1 (1868); Bouleng. Poiss. Bass. Congo, p. 265 (1901).

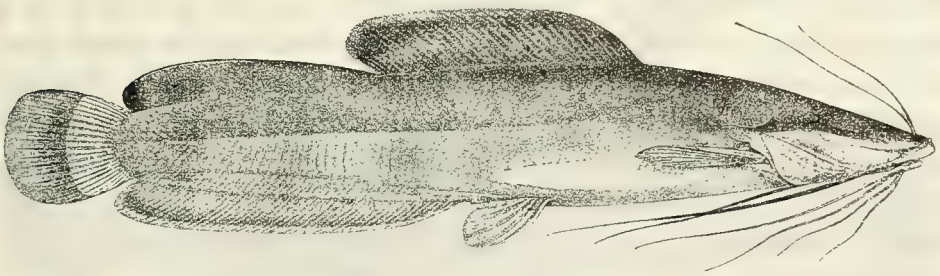
Depth of body 6 to 8 times in total length, length of head 3 to $3\frac{2}{3}$ times. Head less strongly depressed than in the preceding species, $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as broad, its upper surface coarsely granulate in the adult; occipital process acutely pointed; frontal fontanelle knife-shaped, $2\frac{1}{2}$ to 4 times as long as broad, $3\frac{1}{2}$ to $6\frac{1}{2}$ times in length of head; occipital fontanelle small, in advance of occipital process; eye $2\frac{1}{2}$ (very young) to $4\frac{1}{2}$ times in length of snout, 4 to 9 times in interorbital width; width of mouth a little less than interorbital width; band of præmaxillary teeth 5 to 6 times as long as broad; vomerine teeth also villiform, forming a crescentic band, which is nearly as broad as or a little broader than præmaxillary band; nasal barbel $\frac{1}{2}$ to once length of head; maxillary barbel $1\frac{1}{5}$ to 2 times length of head, extending to end of pectoral or between this point and origin of anal; outer mandibular barbel $1\frac{1}{2}$ to $1\frac{3}{4}$ times as long as inner, which measures $\frac{1}{2}$ to nearly once length of head. Gill-rakers rather short, 20 to 30 on anterior arch.

Dorsal 29–34, its distance from occipital process $\frac{1}{7}$ to $\frac{1}{3}$ length of head; adipose dorsal as long as or a little shorter and lower than rayed dorsal, commencing immediately behind or at a short distance from the latter. Anal 44–54, extending, like the adipose dorsal, to the base of the caudal fin. Pectoral $\frac{2}{5}$ to $\frac{1}{2}$ length of head, the spine feebly serrated on the outer border and measuring $\frac{1}{2}$ (young) to $\frac{6}{7}$ the length of the fin. Ventral midway between end of snout and base of caudal, or a little nearer the latter. Caudal $\frac{1}{2}$ to $\frac{2}{3}$ length of head. Olive above, white beneath, sometimes with scattered black blotches; dorsal and anal fins pale olive, darker towards the edge, which may be margined with red; caudal fin yellowish or pale orange at the base, with a more or less distinct blackish crescentic band, sharply defined in front, shading off to yellow or red behind; adipose dorsal fin often blackish at the end.

Total length 720 millim.

Nile, Omo, Niger, Congo, Zambesi.—Type in Paris Museum.

Fig. 227.



Heterobranchus longifilis.
Luxor (F. N.). $\frac{1}{6}$.

1. Yg.	Nile.	
2. Hgr.	Luxor.	L. Loat, Esq. (C.).
3. Skel.	,,	,,
4–9. Yg.	Between Luxor and Assuan.	,,
10. Yg.	Assuan.	,,
11–12. Yg.	Kosheh, Nubia.	,,
13. Yg.	Khartum.	J. Petherick, Esq. (C.).
14. Ad.	Cojeb R. (Omo), 2500 ft.	Mr. P. C. Zaphiro (C.). ; W. N. MacMillan, Esq. (P.).
15. Hgr.	Ergino R. (Omo), 3000 ft.	,,
16. Hgr.	Orah R., Lagos.	Major G. E. Bruce (P.).
17–22. Yg.	Agberi, S. Nigeria.	Dr. W. J. Ansorge (C.).
23. Yg.	Kasai district, Congo.	M. De Meuse (C.).
24, 25. Ad. & yg.	Monsembe, Upp. Congo.	Rev. J. H. Weeks (P.).

3. HETEROBRANCHUS ISOPTERUS.

Bleek. Nat. Verh. Wet. Haarlem, xviii. 1863, no. 2, p. 108, pl. xxii. fig. 1 ; Günth. Cat. v. p. 23 (1864) ; Bouleng. Proc. Zool. Soc. 1907, p. 1096.

Heterobranchus macronema, Bleek. l. c. p. 109, pl. xxi. fig. 1.

Depth of body 6 to 6½ times in total length, length of head 3⅓ to 3½ times. Head 1⅖ times as long as broad, upper surface finely granulate; occipital process acutely pointed; frontal fontanelle 3 to 4 times as long as broad, 3 to 4½ times in length of head; occipital fontanelle small, in advance of occipital process; eye small, 2½ or 3 times in length of snout, 5½ or 6 times in interorbital width, which is a little less than ½ length of head; width of mouth ⅖ length of head; band of præmaxillary teeth 5 times as long as broad; vomerine teeth villiform, forming a crescentic band, which is as broad as or a little narrower than the præmaxillary band; nasal barbel a little shorter than head ; maxillary barbel 1⅕ to 1½ times length of head, extending to extremity of pectoral spine or to base of ventral; inner mandibular barbel ⅔ length of outer, a little shorter than the nasal. 18–20 gill-rakers on first arch. Dorsal 30–32, its distance from occipital process ⅓ or ¼ length of head; adipose dorsal as long as or a little shorter, lower than, and commencing a short distance behind, dorsal proper, narrowly separated from caudal. Anal 41–46. Pectoral ⅗ length of head, the spine feebly serrated on the outer edge and measuring ¾ the length of the fin. Ventral midway between end of snout and base of caudal. Caudal a little more than ½ length of head. Blackish brown above, whitish beneath ; fins with a narrow yellowish margin.

Total length 170 millim.

Gold Coast.—Type in Leyden Museum.

1. Hgr.	Nyankoma, Gold Coast.	R. B. N. Walker, Esq. (C.); Dr. A. Günther (P.).
2. Hgr.	Infoan, R. Offin.	,,
3–4. Yg.	W. Africa.	C. Swanzz, Esq. (C.).

7. DINOTOPTERUS.

Bouleng. Tr. Zool. Soc. xvii. 1906, p. 550, and Proc. Zool. Soc. 1907, p. 1097.

As in the preceding, but sides of head naked, only the postorbital shield being present, and adipose dorsal fin small, not supported by bony rays.

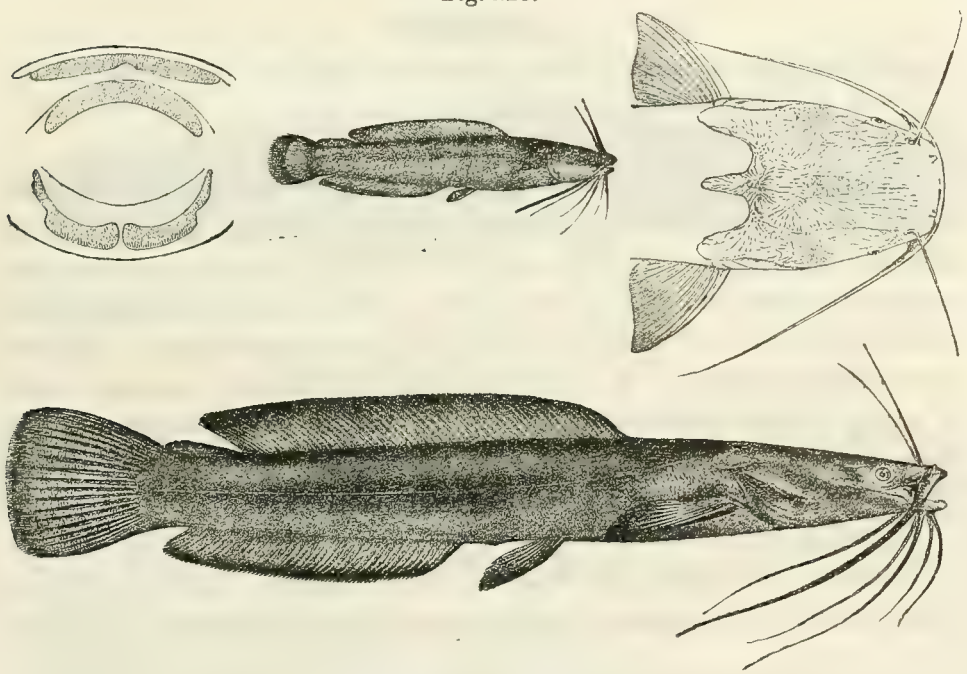
A single species.

1. DINOTOPTERUS CUNNINGTONI.

Bouleng. ll. cc., Tr. pl. xxxi.

Depth of body $7\frac{1}{2}$ times in total length, length of head $3\frac{2}{5}$ times. Head extremely flattened, $1\frac{1}{3}$ times as long as broad, its upper surface covered with very thin skin and rugose with striæ radiating from the occipital region; frontal fontanelle large, $2\frac{1}{2}$ times as long as broad, $\frac{1}{4}$ length of head; occipital fontanelle very small; a rather long and narrow occipital process; snout broad, truncate, not projecting beyond mouth; eye small, 3 times in length of snout, $7\frac{1}{2}$ times in interorbital

Fig. 228.



Dinotopterus cunningtoni.
Adult and young, types (Tr. Z. S. 1906). $\frac{1}{4}$.

width; nasal barbel $\frac{3}{5}$ length of head; maxillary barbel a little longer than head, reaching posterior third of pectoral; outer mandibular barbels once and $\frac{1}{2}$ as long as inner and nearly as long as head. Jaws with bands of minute villiform teeth; similar teeth form a rather broader crescentic band on the vomer. Gill-rakers very long and slender, closely set, about 110 on anterior arch. Dorsal 53, its distance from occipital process $\frac{1}{3}$ length of head; adipose dorsal low and short, in contact with caudal. Anal 43, separated from caudal by a space equal to twice diameter of eye. Pectoral $\frac{1}{2}$ length of head; spine rather weak, not

serrated, a little more than half length of fin. Ventral equally distant from end of snout and from root of caudal. Caudal rounded. Dark brown, almost black, above, pinkish white beneath.

Described from a single specimen, 500 millim. long; the species said to grow to 1290 millim. In a young specimen, 90 millim. long, the head is less depressed and the eyes are proportionally larger.

Lake Tanganyika.

1. Type.	Mpala.	Dr. W. A. Cunnington (C.).
2. Yg.	Mbete.	,,

8. PLOTOSUS.

Lacep. Hist. Poiss. v. p. 129 (1803); Günth. Cat. Fish. v. p. 23 (1864); Vaill. Bull. Mus. Paris, 1903, p. 119.

Platystacus, part., Bloch, Ausl. Fische, viii. p. 52 (1793).

Body elongate, compressed, tapering to a point behind. A short dorsal fin in front, with a pungent spine; a second long dorsal and a long anal, united with the caudal. Pectoral fin with the outer ray spinous; ventral fin with 12 to 14 rays. Head feebly depressed; four pairs of barbels—one nasal, one maxillary, two mandibulars. Eye with free orbital margin. Jaws with a band of obtusely conical teeth; a group of large granular teeth on the vomer. Gill-membranes free from the isthmus, deeply notched in the middle. A dendritic post-anal apparatus. Air-bladder moderately large, free.

Vertebræ 46–81 (16–19+30–62). Brachiostegal rays 11 to 13.

Coasts of the Indian and Western Pacific Oceans, sometimes entering fresh waters. One species has been found in fresh waters in East Africa.

1. PLOTOSUS ANGUILLARIS.

Silurus, sp. *d*, Forsk. Descr. Anim. p. xvi (1775).

Platystacus anguillaris, Bloch, Ausl. Fische, viii. p. 60, pl. cccl xxiii. fig. 1 (1793).

Plotosus anguillaris, Lacep. Hist. Poiss. v. p. 129 (1803); Rüpp. N. Wirbelth. Abyss., Fische, p. 76 (1835); Cantor, Cat. Mal. Fish. p. 264 (1850); Peters, Arch. f. Nat. 1835, p. 267; Günth. Cat. Fish. v. p. 24 (1864); Sauv. Hist. Madag., Poiss. p. 477, pl. xlvii. A. fig. 1 (1891); Pfeff. Thierw. O.-Afr., Fische, p. 29, fig. (1896).

Plotosus ikapor, Less. Voy. Coquille, Zool. ii. p. 132, pl. xxxi. fig. 3 (1830).

Plotosus marginatus, Bennett, Life of Raffles, p. 691 (1830).

Plotosus lineatus, Cuv. & Val. Hist. Poiss. xv. p. 412 (1840); Schleg. Faun. Japon., Poiss. p. 228, pl. civ. fig. 3 (1846).

Plotosus castaneus, Bleek. Nat. Tijdschr. Ned. Ind. ii. 1851, p. 490.

Plotosus arab, Bleek. Atl. Ichth. ii. p. 98, pl. xcv. fig. 2 (1862) ; Day, Fish. Ind. p. 483, pl. cxii. fig. 4 (1878).

Depth of body $6\frac{1}{2}$ to 8 times in total length, length of head $4\frac{1}{3}$ to 5 times. Snout rounded, feebly projecting beyond mouth, its length equal to interorbital width ; eye supero-lateral, 5 to 6 times in length of head ; lips papillose ; teeth large. Nasal and inner mandibular barbels $\frac{2}{5}$ to $\frac{1}{2}$ length of head, maxillary and outer mandibular $\frac{3}{5}$ to $\frac{2}{3}$. Gill-rakers rather long, closely set, about 20 on lower part of anterior arch. Dorsal I 4–5, 85–100 ; anal 70–80 ; spine strong, serrated in front and

Fig. 229.

Plotosus anguillaris.
Indian Ocean (after Day, Fish. Ind.). $\frac{1}{2}$.

behind, $\frac{1}{3}$ to $\frac{1}{2}$ length of head. Pectoral about $\frac{2}{3}$ length of head, with strong but short spine serrated on both sides. Ventral $1\frac{1}{2}$ to $1\frac{2}{3}$ times as distant from caudal as from end of snout. Dark brown, usually with two or three bluish-white longitudinal streaks on each side, at least in the young.

Total length 250 millim.

Indian Ocean and Western Pacific, as far north as Japan.

1–2. Yg.	Gulf of Suez.	R. MacAndrew, Esq. (P.).
3–5, 6. Hgr. & yg.	Zanzibar.	Sir L. Playfair (P.).
7. Hgr.	Rodriguez.	G. Gulliver, Esq. (P.).
8. Skel.	——?	

9. EUTROPIUS.

Müll. & Trosch. Hor. Ichthyol. iii. p. 6 (1849) ; Günth. Cat. Fish. v. p. 52 (1864); Bouleng. Poiss. Bass. Congo, p. 266 (1901), and Fish. Nile, p. 306 (1907).

Body moderately elongate, strongly compressed, the præcaudal region short. Dorsal fin short, with a spine and 5 or 6 branched rays ; a very

small adipose dorsal fin; anal fin much elongate. Pectoral fin with an outer spinous ray. Ventral fin with six rays, inserted under the dorsal fin or behind the vertical of the latter. Four pairs of barbels—nasal, maxillary, and two mentals or mandibulars. Nostrils widely separated. Eye large, with free border. Jaws with a band of villiform teeth; a band of villiform vomero-palatine teeth. Gill-membranes free, deeply notched. Air-bladder large, free.

49–55 vertebræ (11–15+36–39). 9 or 10 branchiostegal rays.

Nile and Tropical Africa.

Synopsis of the Species.

I. Snout projecting more or less beyond border of mouth.

A. Base of dorsal exactly above base of ventrals; maxillary barbel longer than outer mandibular; spine of dorsal at least as long as head; pectoral longer than head, reaching origin of anal or a little beyond; anal 52–63. 1. *E. congolensis*, Leach, p. 281.

B. Base of dorsal entirely or partly in advance of base of ventrals; spine of dorsal not longer than head; pectoral not reaching anal.

1. Maxillary barbel longer than outer mandibular.

a. Anal with more than 50 rays.

Anal 59; pectoral spine feebly serrated on inner side; nasal barbel much longer than eye . . . . . 2. *E. banguelensis*, Blgr., p. 282.

Anal 54–69; pectoral spine strongly serrated on inner side; nasal barbel not longer than eye . . . . . 3. *E. niloticus*, Rüpp., p. 283.

Anal 52–53; pectoral spine feebly serrated on inner side; nasal barbel not longer than eye . . . . . 4. *E. grenfelli*, Blgr., p. 286.

b. Anal with not more than 50 rays.

Anal 46–50; pectoral spine moderately serrated on inner side . . . . . 5. *E. liberiensis*, Stdr., p. 287.

Anal 38–45; pectoral spine feebly serrated on both sides . . . . . 6. *E. debauwi*, Blgr., p. 288.

2. Maxillary barbel not longer than outer mandibular; anal 52–62.

Maxillary barbel longer than the nasal; caudal peduncle a little deeper than long . . . 7. *E. mentalis*, Blgr., p. 288.

Maxillary and nasal barbels subequal . . . 8. *E. mandibularis*, Gthr., p. 290.

II. Lower jaw extending forward quite as far as the snout, or projecting a little beyond latter ; base of dorsal entirely or partly above that of ventrals.

A. Maxillary barbel longer than the outer mandibular ; nasal barbel not longer than eye.

Anal 53 . . . . . 9. *E. bocagii*, Guimar., p. 290.

B. Maxillary barbel not longer than outer mandibular ; nasal barbel longer than eye.

Anal 45 ; maxillary barbel a little shorter than mandibular ; pectoral reaching ventral . 10. *E. laticeps*, Blgr., p. 291.

Anal 50–60 ; maxillary barbel not or but little shorter than outer mandibular ; pectoral not reaching ventral . . . . . 11. *E. depressirostris*, Peters, [p. 291.

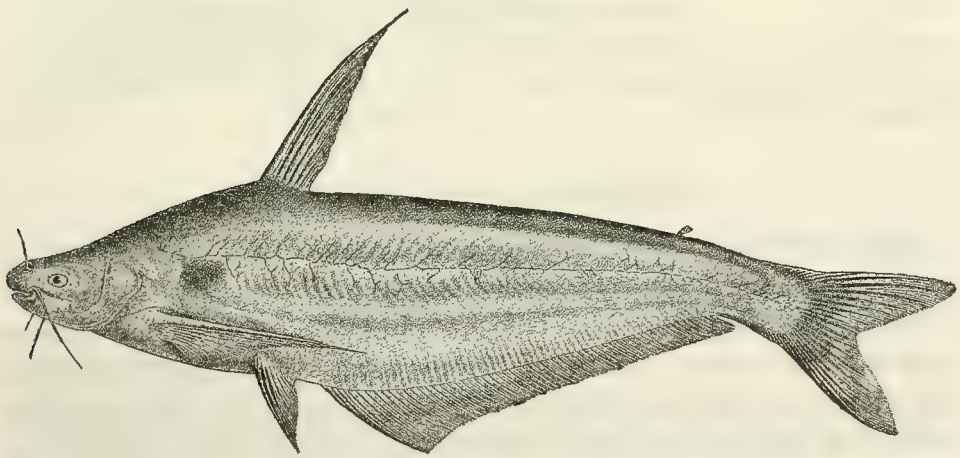
Anal 63–70; maxillary barbel about half as long as outer mandibular . . . . . 12. *E. moebii*, Pfeff., p. 293.

1. EUTROPIUS CONGOLENSIS.

Silurus congensis, Leach, in Tuckey, Exped. R. Zaire, p. 409 (1818).
Eutropius congensis, Günth. Cat. Fish. v. p. 52 (1864).
Eutropius congolensis, Bouleng. Poiss. Bass. Congo, p. 268 (1901).

Depth of body 4 to $4\frac{1}{2}$ times in total length, length of head 5 to 6

Fig. 230.



Eutropius congolensis.
Type. $\frac{1}{3}$.

times. Head $1\frac{1}{5}$ to $1\frac{1}{2}$ times as long as broad; snout broad, projecting beyond mouth, 2 to $2\frac{1}{2}$ times as long as eye in adult, as long as eye in young; eye perfectly lateral, 4 (young) to 7 times in length of head,

2 (young) to 4 times in interorbital width; width of mouth a little less than interorbital width; vomero-palatine teeth forming an uninterrupted band, which is as broad as or a little broader than the band of præmaxillary teeth. Nasal barbel $\frac{1}{4}$ to $\frac{2}{7}$ length of head, maxillary barbel $\frac{2}{5}$ to $\frac{2}{3}$; inner mandibular barbel about $\frac{1}{2}$ length of outer, which is inserted behind it and measures about $\frac{1}{3}$ length of head. Gill-rakers moderately long, widely set, 7 to 9 on lower part of anterior arch. Dorsal I 6, exactly above ventrals, 2 to $2\frac{1}{4}$ times as distant from caudal as from end of snout; its spine slender, feebly serrated behind, as long as or a little longer than head, produced into a filament. Anal 52–63, 4 or 5 anterior rays simple, the following gradually decreasing in length. Pectoral reaching origin of anal or a little beyond, its spine rather feebly serrated on inner side, as long as or a little longer and stronger than that of dorsal. Caudal deeply forked, with pointed lobes. Caudal peduncle as long as or a little longer than deep. Silvery, back brownish; fins uniform whitish (or pink); a more or less distinct dark blotch on each side above the pectoral fin, corresponding to the thinner skin over the air-bladder; young sometimes with a dark lateral band.

Total length 420 millim.

Congo.

1. Type.	Lower Congo.	Capt. Tuckey (C.).
2. Ad.	Yelala, nr. Matadi, L. Congo.	M. P. Delhez (C.).
3. Ad.	Monsembe, Upp. Congo.	Rev. J. H. Weeks (P.).
4–9. Ad., hgr., & yg.	Stanley Falls.	Rev. W. H. Bentley (C.).
10. Skel.	,,	,,

2. EUTROPIUS BANGUELENSIS, sp. n.

Depth of body $3\frac{3}{5}$ times in total length, length of head 5 times. Head $1\frac{1}{3}$ times as long as broad; snout broad, projecting slightly beyond mouth, longer than eye, which is 5 times in length of head and 3 times in interorbital width; width of mouth a little less than interorbital width; vomero-palatine teeth forming an uninterrupted band, which is as broad as the band of præmaxillary teeth. Nasal barbel $\frac{2}{5}$ length of head, maxillary $\frac{2}{3}$, inner mandibular $\frac{1}{4}$, outer mandibular $\frac{1}{2}$. Gill-rakers moderately long, widely set, 9 on lower part of anterior arch. Dorsal I 6, entirely in advance of vertical of ventrals, twice as distant from caudal as from end of snout; its spine slender, feebly serrated behind, the rigid part as long as head, the whole ray $1\frac{3}{5}$ times as long as head. Anal 59, 4 anterior rays simple, fourth nearly as long as head. Pectoral reaching ventral, its spine feebly serrated on inner side, as long as and

but slightly stronger than that of dorsal. Caudal deeply forked Caudal peduncle $1\frac{1}{3}$ times as long as deep. Body and fins uniform brown, back darker.

Fig. 231.

Eutropius banguelensis.
Type. $\frac{1}{3}$.

Total length 300 millim.
Lake Bangwelu.

1. Ad. L. Bangwelu. F. H. Melland, Esq. (P.).

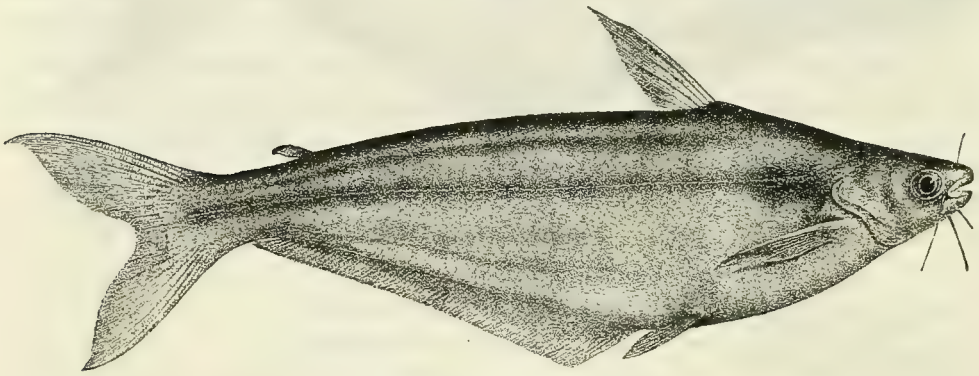
3. EUTROPIUS NILOTICUS.

Hypophthalmus niloticus, Rüpp. Beschr. n. Fische Nil, p. 6, pl. i. fig. 1 (1829).
Chilbé zérégé, Rifaud, Voy. Egypte, pl. cxciv. no. 4 (1830).
Schilbe hasselquistii, Cuv. & Val. Hist. Poiss. xiv. p. 377 (1839).
Bagrus schilbeoides, Cuv. & Val. t. c. p. 389.
Bagrus adansonii, Cuv. & Val. t. c. p. 391, pl. ccccxiv.
Eutropius niloticus, Günth. Cat. Fish. v. p. 52 (1864), and Petherick's Trav. ii. p. 225 (1869) ; Bouleng. Fish. Nile, p. 306, pl. lv. fig. 1 (1907).
Eutropius obtusirostris, Günth. Cat. t. c. p. 53.
Eutropius adansonii, Günth. Cat. t. c. p. 54 ; Steind. Sitzb. Ak. Wien, lx. i. 1870, p. 985, pl. v.
Eutropius altipinnis, Steind. Notes Leyd. Mus. xvi. 1894, p. 57, pl. i. fig. 1.

Depth of body 3 to $4\frac{2}{3}$ times in total length, length of head 5 to 6 times. Head $1\frac{1}{4}$ to $1\frac{2}{3}$ times as long as broad ; snout broad, projecting slightly beyond mouth, as long as or a little longer than eye in adult, a

little shorter in young; eye perfectly lateral, 3 (young) to 5 times in length of head, $1\frac{1}{2}$ (young) to nearly 3 times in interorbital width; width of mouth a little less than interorbital width; vomero-palatine teeth forming an uninterrupted band, which is nearly as broad as or narrower than the band of præmaxillary teeth. Nasal barbel as long as or shorter than eye; maxillary barbel shorter than head; inner mandibular barbel about half length of outer, which is inserted behind it and measures about $\frac{1}{2}$ to $\frac{2}{3}$ the length of the maxillary barbel. Gill-rakers moderately long, widely set, 7 to 11 on lower part of anterior arch. Dorsal I 5–6, partly or entirely in advance of vertical of ventrals and 2 to $2\frac{1}{3}$ times as distant from caudal as from end of snout; its spine slender, feebly serrated behind, $\frac{3}{4}$ to once length of head, produced into a short

Fig. 232.



Eutropius niloticus.
Upper Nile (F. N.). $\frac{1}{3}$.

filament. Anal 54–69, 4 or 5 anterior rays simple, the following gradually decreasing in length. Pectoral reaching or not ventral, its spine strongly serrated on inner side and stronger than and nearly equal in length to that of dorsal. Caudal deeply forked, with pointed lobes. Caudal peduncle $1\frac{1}{5}$ to $1\frac{1}{2}$ times as long as deep. Silvery or pale brownish, darker green or olive on the back; a blackish or green ill-defined blotch on each side above the pectoral fin; dorsal and pectoral fins sometimes blackish.

Total length 400 millim.

Nile System and rivers of West Africa, from the Senegal to the Ogowe.—Types in the Senckenberg Museum, Frankfort (Main).

1. One of the types.	Egypt.	Dr. Rüppell (C.).
2–3. Hgr.	Nile.	,,

4. Ad.	Nile.	J. Petherick, Esq. (C.).
5. Skel.	,,	G. Macleay, Esq. (P.).
6–8. Ad. & hgr.	,,	
9. Hgr.	Near Samannud.	L. Loat, Esq. (C.).
10–15. Ad. & hgr.	Damietta Nile, downstream side of barrage.	,,
16. Skel.	,, ,,	,,
17–18. Hgr.	,, upstream side of barrage.	,,
19–20. Hgr.	Rosetta Nile, downstream side of barrage.	,,
21. Ad.	Nile at barrage near Cairo.	,,
22–24. Yg.	Nile 2 miles N. of Cairo.	,,
25–26. Ad. & hgr.	Nile at Cairo.	,,
27–30. Hgr.	Beni Souef.	,,
31–33. Hgr.	Bahr Selah, Fayum.	,,
34. Ad.	Girgeh.	,,
35–37. Yg.	Near Luxor.	,,
38–43. Ad. & hgr.	Assuan, Upp. Nile.	,,
44–46. Ad.	Debud, ,,	,,
47. Ad.	Abu Hor, ,,	,,
48. Ad.	Mirrwau, ,,	,,
49. Ad.	El Maharakka, Upper Nile.	,,
50–51. Ad. & hgr.	Derr, ,,	,,
52. Ad.	Kosheh, ,,	,,
53–55. Ad. & hgr.	Khartum.	J. Petherick, Esq. (C.).
56. Hgr.	Wad Medine, Blue Nile.	L. Loat, Esq. (C.).
57–58. Ad.	Rosaires, ,,	Capt. S. Flower (P.).
59. Ad.	Kawa, White Nile.	L. Loat, Esq. (C.).
60. Ad.	Gharb-el-Aish, White Nile.	,,
61. Ad.	Tewfikyeh, ,,	,,
62–65. Yg.	Fashoda, ,,	,,
66–68. Ad. & hgr.	Mouth of L. No, ,,	,,
69. Ad.	Butyaba, L. Albert.	,,
70. Hgr.	Bol, L. Chad.	Paris Museum (E.).
71–72. Hgr.	Lagos.	Sir A. Moloney (P.).
73–75. Ad. & hgr.	Lokoje and Mureji, Upp. Niger.	J. S. Budgett, Esq. (P.).
76. Yg.	Jebba, Upp. Niger.	Capt. G. F. Abadie (P.).
77–78. Hgr.	Ossomari, Low. Niger.	Dr. W. J. Ansorge (C.).
79–80. Hgr. & yg.	Warri, Old Calabar.	Miss Kingsley (C.).
81–87. Hgr. & yg.	Old Calabar.	Mr. E. Seimund (C.).
88. Yg.	,,	Dr. Jackson (C.); Hon. W. Rothschild (P.).
89–90. Yg.	Cameroon.	,,

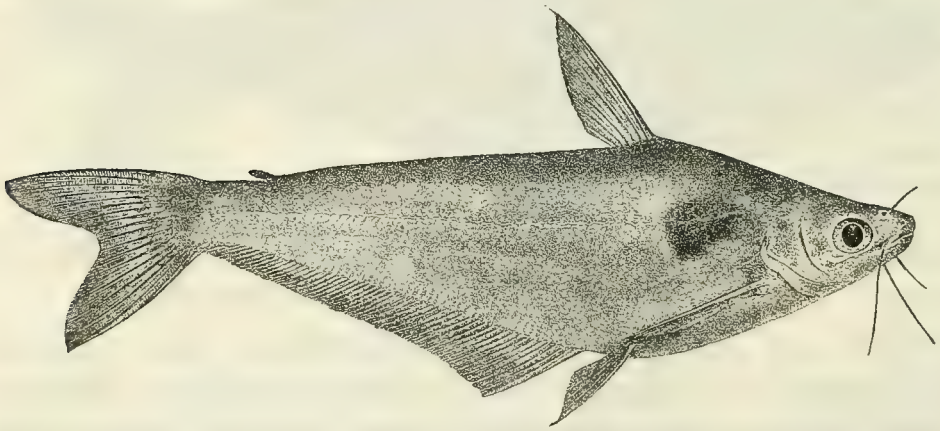
91–93. Ad. & hgr.	Cameroon.	Mr. Salmin (C.).
94. Yg.	Ogowe.	Miss Kingsley (C.).
95. Yg.	Banzyville, Ubanghi.	Capt. Royaux (C.).
96–97. Yg., types of *E. obtusirostris.*	—— ?	

4. EUTROPIUS GRENFELLI.

Bouleng. Ann. Mus. Congo, Zool. i. p. 137, pl. l. fig. 1 (1900), and Poiss. Bass. Congo, p. 270 (1901); Pellegr. in Chevalier, Afr. C. Franç. p. 449 (1907), and Bull. Soc. Philom. (9) x. 1908, p. 187.

Depth of body $3\frac{1}{3}$ to 4 times in total length, length of head 5 to $5\frac{1}{3}$ times. Head $1\frac{2}{5}$ to $1\frac{1}{2}$ times as long as broad; snout broad, projecting slightly beyond mouth, as long as or a little longer than eye; latter perfectly lateral, $3\frac{1}{2}$ to 4 times in length of head, $1\frac{1}{2}$ to 2 times in interorbital width; width of mouth equal to interorbital width; vomero-palatine teeth forming an uninterrupted band, which is as broad as or a little narrower than the band of præmaxillary teeth. Nasal barbel $\frac{1}{4}$ to

Fig. 233.



Eutropius grenfelli.
Type (A. M. C.). $\frac{2}{5}$.

$\frac{1}{3}$ length of head, maxillary barbel $\frac{2}{3}$ to $\frac{5}{6}$; inner mandibular barbel $\frac{1}{3}$ to $\frac{1}{2}$ length of outer, which measures $\frac{2}{5}$ to $\frac{1}{2}$ length of head. Gill-rakers moderately long, widely set, 7 to 9 on lower part of anterior arch. Dorsal I 6, partly in advance of ventrals, $1\frac{3}{4}$ to 2 times as distant from caudal as from end of snout; its spine slender, feebly serrated behind, as long as head, produced into a filament. Anal 52–53, 4 anterior rays simple, the following gradually decreasing in length. Pectoral reaching ventral, its spine feebly serrated on inner side and stronger

than and nearly equal in length to that of dorsal. Caudal deeply forked, with pointed lobes. Caudal peduncle as long as or a little longer than deep. Silvery, back brownish; a dark, ill-defined blotch on each side above the pectoral fin.

Total length 280 millim.

Upper Congo, Ogowe, Shari.

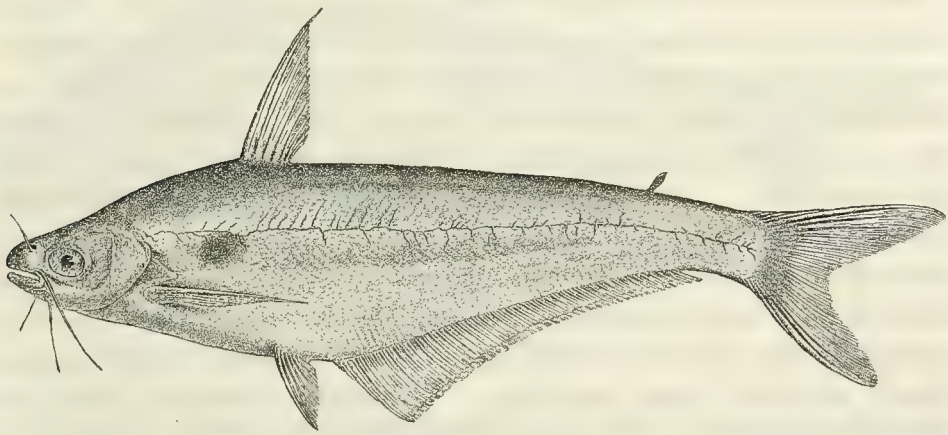
1. Type.	Bolobo.	Rev. G. Grenfell (P.).
2–3. Ad. & hgr.	Monsembe.	Rev. J. H. Weeks (P.).
4. Ad.	Aruwimi R.	R. B. Woosnam, Esq. (C.); Ruwenzori Expedition.

5. EUTROPIUS LIBERIENSIS.

Hubrecht, Notes Leyd. Mus. iii. 1881, p. 69; Steind. op. cit. xvi. 1894, p. 59; Günth. Ann. & Mag. N. H. (6) xvii. 1896, p. 276.

Depth of body 4 to $4\frac{2}{5}$ times in total length, length of head 5 times. Head $1\frac{1}{2}$ times as long as broad; snout broad, projecting slightly beyond mouth, as long as or a little shorter than eye, which is perfectly lateral

Fig. 234.



Eutropius liberiensis.
Gaboon. $\frac{1}{2}$.

and 3 to $3\frac{1}{2}$ times in length of head, $1\frac{1}{2}$ to $1\frac{2}{3}$ times in interorbital width; width of mouth equal to interorbital width; vomero-palatine teeth forming an uninterrupted band, which is as broad as or narrower than the band of præmaxillary teeth. Nasal barbel $\frac{1}{4}$ length of head, maxillary $\frac{4}{5}$ to once, inner mandibular $\frac{1}{4}$, outer mandibular $\frac{1}{2}$ to $\frac{3}{5}$. Gill-rakers moderately long, widely set, 9 to 11 on lower part of anterior arch. Dorsal I 5–6, partly in advance of ventrals, twice as

distant from caudal as from end of snout; its spine slender, feebly serrated behind, $\frac{3}{4}$ to $\frac{5}{6}$ length of head, produced into a short filament. Anal 46–50, 4 anterior rays simple, the following gradually decreasing in length. Pectoral reaching ventral, its spine moderately serrated on inner side and stronger and a little longer than that of dorsal. Caudal deeply forked, with pointed lobes. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Silvery, pale brownish on the back, with or without a dark lateral streak; an ill-defined dark blotch above the pectoral fin; fins whitish.

Total length 180 millim.

Liberia, Gaboon.—Type in Leyden Museum.

1. Hgr.	Gaboon.	
2–4. Hgr. & yg.	Lambarene, Ogowe.	Miss Kingsley (C.).
5. Hgr.	„ „	Dr. W. J. Ansorge (C.).

6. EUTROPIUS DEBAUWI.

Bouleng. Ann. Mus. Congo, Zool. i. p. 138, pl. l. fig. 2 (1900), and Poiss. Bass. Congo, p. 270 (1901).

Depth of body 4 to $4\frac{1}{2}$ times in total length, length of head 5 times. Head $1\frac{1}{2}$ to $1\frac{3}{4}$ times as long as broad; snout broad, projecting slightly beyond mouth, as long as eye; latter perfectly lateral, $3\frac{1}{2}$ times in length of head, twice in interorbital width; width of mouth equal to interorbital width; vomero-palatine teeth forming a narrow uninterrupted band. Nasal barbel $\frac{1}{5}$ to $\frac{1}{4}$ length of head, maxillary barbel $\frac{3}{4}$, outer mandibular $\frac{1}{2}$. Dorsal I 5, entirely in advance of ventrals, about $2\frac{1}{2}$ times as distant from caudal as from end of snout, its spine feebly serrated in front and behind. Anal 38–45. Pectoral not reaching ventral, its spine feebly serrated on both sides. Caudal deeply forked. Caudal peduncle longer than deep. Yellowish; a blackish streak on each side of the tail, and another extending on upper lobe of caudal.

Total length 70 millim.

Uerre, Upper Congo.—Type in Congo Museum, Tervueren.

1. Yg., one of the types.	Uerre.	M. De Bauw (C.).

7. EUTROPIUS MENTALIS.

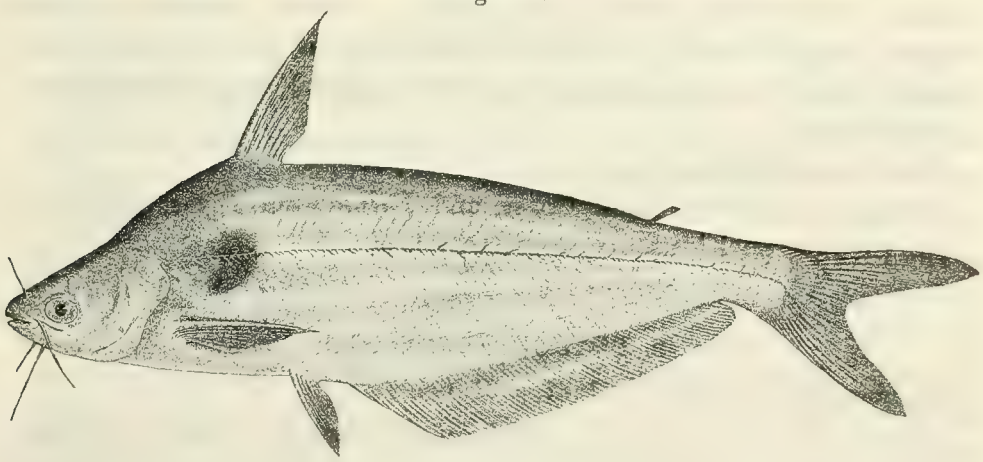
Eutropius congensis (non Leach), Günth. Proc. Zool. Soc. 1899, p. 730.

Eutropius mentalis, Bouleng. Poiss. Bass. Congo, p. 269 (1901); Günth. Proc. Zool. Soc. 1902, ii. p. 335.

Depth of body 3 to 4 times in total length, length of head $4\frac{1}{2}$ to 5

times. Head $1\frac{1}{3}$ times as long as broad; snout broad, projecting slightly beyond lower jaw, as long as or longer than eye; latter perfectly lateral, $3\frac{1}{2}$ (young) to 5 times in length of head, 2 to 3 times in interorbital width; width of mouth a little less than interorbital width; vomero-palatine teeth forming an uninterrupted band, which is as broad as the band of præmaxillary teeth. Nasal barbel shorter than maxillary, $\frac{1}{4}$ to $\frac{1}{2}$ length of head; maxillary and outer mandibular barbels equal, $\frac{1}{2}$ to $\frac{3}{4}$ length of head; inner mandibular barbels $\frac{1}{6}$ to $\frac{1}{4}$ length of head. Gill-rakers moderately long, widely set, 10 to 12 on lower part of anterior arch. Dorsal I 6, entirely in advance of ventrals, $1\frac{3}{4}$ to 2 times as distant from caudal as from end of snout; its spine slender, feebly serrated behind, $\frac{2}{3}$ to $\frac{3}{4}$ length of head, produced into a short filament. Anal 53–62, 4 or 5 anterior rays simple, the following gradually

Fig. 235.



Eutropius mentalis.
Ja River. $\frac{1}{2}$.

decreasing in length. Pectoral reaching ventral, its spine stronger and a little longer than that of dorsal, with moderately strong inner serrated edge. Caudal deeply forked, with pointed lobes. Caudal peduncle a little deeper than long. Brown above, silvery beneath, or brown with three silvery longitudinal streaks on each side, the median following the lateral line; a dark, ill-defined blotch on each side above the pectoral fin; fins brownish, with a more or less distinct light streak along the anal.

Total length 320 millim.

Gold Coast, Cameroon.

1–3. Types.	Prah R., Gold Coast.	R. B. N. Walker, Esq. (P.).
4–6. Hgr. & yg.	Infoan, „	„ (C.); Dr. A. Günther (P.).
7–12, 13–14. Ad., hgr., & yg.	Ja R., S. Cameroon.	G. L. Bates, Esq. (C.).

8. EUTROPIUS MANDIBULARIS.

Günth. Ann. & Mag. N. H. (3) xx. 1867, p. 112 ; Steind. Notes Leyd. Mus. xvi. 1894, p. 57.

Depth of body $3\frac{3}{5}$ to $4\frac{1}{3}$ times in total length, length of head 5 to $5\frac{1}{3}$ times. Head longer than broad; snout projecting slightly beyond lower jaw, longer than eye, which is 4 to $4\frac{1}{2}$ times in length of head. Nasal, maxillary, and outer mandibular barbels subequal in length. Dorsal I 6, entirely in advance of ventrals; spine slender, serrated behind, shorter than head. Anal 52–59. Pectoral reaching a little beyond base of ventral, its spine stronger and as long as that of the dorsal, its inner border strongly serrated. Caudal deeply forked, with pointed lobes.

Total length 230 millim.

Bossumprah River, Gold Coast, and Farmington River, Liberia.—Type (in Liverpool Museum) apparently lost.

9. EUTROPIUS BOCAGII.

Guimaraes, Jorn. Sci. Lisb. ix. 1882, p. 85, fig.

Depth of body 4 times in total length, length of head $4\frac{1}{2}$ times. Head $1\frac{3}{5}$ times as long as broad; snout broad; lower jaw slightly projecting; eye perfectly lateral, 5 times in length of head, $3\frac{1}{3}$ times in interorbital width; vomero-palatine teeth forming an uninterrupted band, which is as broad as the band of præmaxillary teeth. Nasal barbel not quite as long as eye; maxillary barbel about $\frac{2}{3}$ length of head, outer mandibular $\frac{1}{2}$, inner mandibular $\frac{1}{5}$. Dorsal I 6, entirely in advance of ventrals, twice as distant from caudal as from end of snout, its spine feebly serrated behind. Anal 53. Caudal deeply forked, with pointed lobes. Caudal peduncle hardly longer than deep. Back reddish grey, dotted with black, sides and belly silvery; fins speckled with blackish.

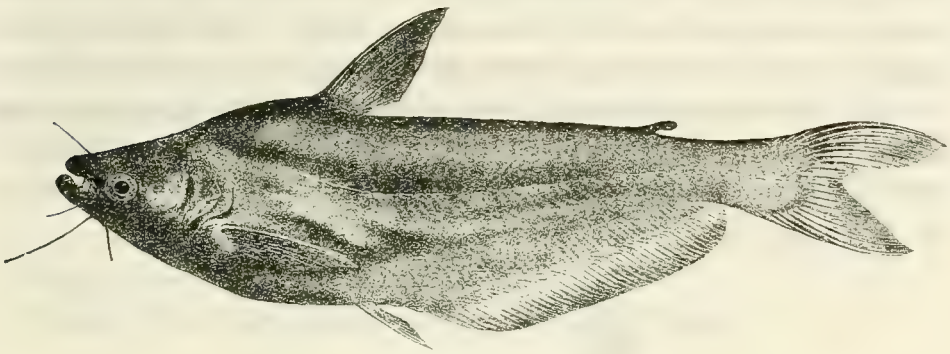
Total length 215 millim.

Dondo R. (Quanza), Angola.—Type in Lisbon Museum.

10. EUTROPIUS LATICEPS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 105, pl. xli. fig. 3 (1899), and Poiss. Bass. Congo, p. 271 (1901).

Fig. 236.



Eutropius laticeps.
Type (A. M. C.). $\frac{1}{2}$.

Depth of body $3\frac{1}{2}$ times in total length, length of head $4\frac{1}{2}$ times. Head hardly longer than broad; snout broad, jaws equal in front; eye 5 times in length of head; vomero-palatine teeth forming an uninterrupted band, which is as broad as the band of præmaxillary teeth. Nasal barbel $\frac{2}{5}$ length of head, maxillary $\frac{2}{3}$, inner mandibular $\frac{1}{4}$, outer mandibular $\frac{4}{5}$. Gill-rakers rather long, widely set, 12 on anterior arch. Dorsal I 6, entirely in advance of ventrals, $1\frac{2}{3}$ times as distant from caudal as from end of snout; its spine feebly serrated behind. Anal 45. Pectoral reaching ventral, its spine a little stronger than that of dorsal and feebly serrated on inner side. Caudal forked, with pointed lobes. Dark brown above, purplish below; fins olive-brown.

Total length 230 millim.

Upper Congo (Lake Leopold II.).—Type in Congo Museum, Tervueren.

11. EUTROPIUS DEPRESSIROSTRIS.

Bagrus depressirostris, Peters, Mon. Berl. Ac. 1852, p. 682.

Eutropius depressirostris, Peters, Arch. f. Nat. 1855, p. 267; Günth. Cat. Fish. v. p. 54 (1864); Peters, Reise Mossamb. iv. p. 54, pl. iv. fig. 5 (1868), and Mon. Berl. Ac. 1868, p. 600; Steind. Sitzb. Ak. Wien, ciii. i. 1894, p. 462; Vincig. Ann. Mus. Genova, (2) xv. 1895, p. 34; Pfeff. Thierw. O.-Afr., Fische, p. 30 (1896).

Eutropius lemairii, Bouleng. Ann. Mus. Congo, Zool. i. p. 138, pl. l. fig. 3 (1900), and Poiss. Bass. Congo, p. 272 (1901).

Depth of body $3\frac{3}{4}$ to 4 times in total length, length of head $4\frac{1}{2}$ to 5 times. Head $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad; snout broad, lower jaw projecting; eye perfectly lateral, $4\frac{1}{2}$ to $5\frac{1}{2}$ times in length of head, $2\frac{1}{2}$ to $3\frac{1}{2}$ times in interorbital width; width of mouth equal to interorbital width; vomero-palatine teeth forming an uninterrupted band, which is narrower than the band of præmaxillary teeth. Nasal barbel $\frac{1}{3}$ to $\frac{1}{2}$ length of head, maxillary and outer mandibular $\frac{2}{5}$ to $\frac{2}{3}$, inner mandibular $\frac{1}{5}$ to $\frac{1}{3}$. Gill-rakers moderately long, widely set, 10 to 12 on lower part of anterior arch. Dorsal I 6, entirely or nearly entirely in advance of ventrals, $1\frac{2}{3}$ to $1\frac{4}{5}$ times as distant from caudal as from end of snout;

Fig. 237.

Eutropius depressirostris.
Type, after Peters (Reise Mossamb.). $\frac{2}{3}$.

its spine slender, very feebly serrated behind in its upper half, much shorter than the head. Anal 50–60, 3 or 4 anterior rays simple, the following gradually decreasing in length. Pectoral not reaching ventral, its spine feebly serrated on inner side, as long as and a little stronger than that of dorsal. Caudal deeply forked, with rounded or obtusely pointed lobes. Caudal peduncle about as long as deep. Greenish or brown above, white beneath, sides sometimes finely speckled with black; a more or less distinct large dark spot above the pectoral fin.

Total length 320 millim.

East and South-east Africa.—Types in Berlin Museum.

1–2. Hgr.	Ngatana, Brit. E. Africa.	Prof. J. W. Gregory (P.).
3. Hgr., one of the types of *E. lemairii*.	Lofoi, Katanga.	Capt. Lemaire (C.).
4. One of the types.	Mozambique.	Prof. W. Peters (P.).

5. Skel.	Beira, Port. E. Africa.	Mr. C. Grant (C.); C. D. Rudd, Esq. (P.).
6. Ad.	Buluwayo, Rhodesia.	Dr. J. D. F. Gilchrist (P.).
7. Ad.	N. Transvaal.	„
8–9. Hgr.	Dwaars R., Transvaal.	„

12. EUTROPIUS MOEBII.

Eutropius möbiusii, Pfeff. Thierw. O.-Afr., Fische, p. 30 (1896).

Depth of body 4 times in total length, length of head 5 times. Maxillary barbel about half as long as outer mandibular. Dorsal I 6, its base partly in advance of ventrals. Anal 63–70. Otherwise as in *E. depressirostris*. Silvery, blackish above.

Kingani River, East Africa.—Types in Berlin Museum.

10. SCHILBE.

Cuv. Règne Anim. ii. pp. 202 (1817), part.; Günth. Cat. Fish. v. p. 40 (1864); Bouleng. Poiss. Bass. Congo, p. 273 (1901), and Fish. Nile, p. 311 (1907).

Differing from the preceding only in the absence of the adipose dorsal fin.

51–55 vertebræ (14–15 + 36–41).

Tropical Africa and the Nile. Only two species appear to be entitled to recognition.

1. SCHILBE MYSTUS.

Silurus mystus, Linn. in Hasselq. Reise Paläst. p. 419 (1762), and Syst. Nat. i. p. 502 (1766); Sonnini, Trav. Egypt, ii. p. 415, pl. v. fig. 3 (1800); Geoffr. Descr. Egypte, Poiss. p. 287, pl. xi. figs. 3 & 4 (1827); Joannis, Mag. Zool. 1835, pl. xii.

Schilbe mystus, Rüpp. Beschr. n. Fische Nil, p. 5 (1829); Cuv. & Val. Hist. Poiss. xvi. p. 372 (1839); Günth. Cat. Fish. v. p. 50 (1864), and Petherick's Trav. ii. p. 222 (1869); Bouleng. Poiss. Bass. Congo, p. 273 (1901); Hilgend. & Pappenh. Sitzb. Ges. naturf. Fr. Berl. 1903, p. 264; Bouleng. Fish. Nile, p. 311, pl. lvi. fig. 1 (1907).

Chilbé Cherissié, Rifaud, Voy. Egypte, pl. cxciii. no. 30 (1830).

Schilbe intermedius, Rüpp. Fortsetz. Beschr. n. Fische, p. 6 (1832).

Schilbe auratus, Joannis, t. c. pl. v.

Schilbe senegallus, Cuv. & Val. t. c. p. 378.

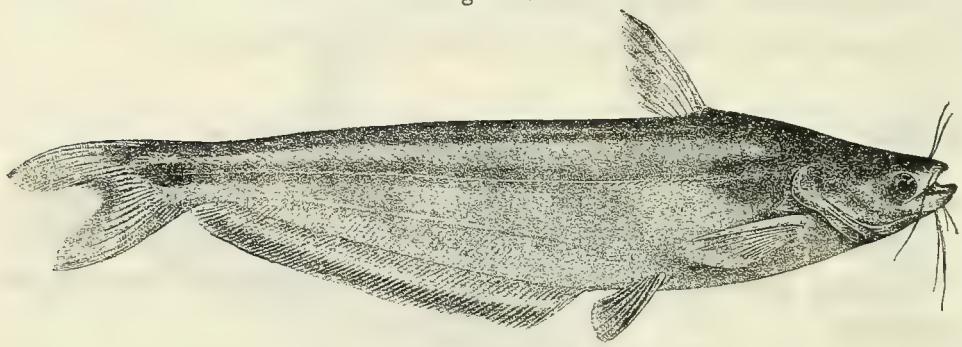
Schilbe dispila, Günth. tt. cc. pp. 51, 223, and Ann. Mag. N. H. (6) xvii. 1896, p. 276; Bouleng. Poiss. Bass. Congo, p. 274.

Schilbe senegalensis, var. *fasciata*, Steind. Sitzb. Ak. Wien, lx. i. 1872, p. 983, pl. vi. figs. 1 & 2.

? *Schilbe bouvieri*, Rochebr. Bull. Soc. Philom. (7) ix. 1885, p. 95.

Depth of body 3 to 5 times in total length, length of head $4\frac{1}{2}$ to $5\frac{1}{2}$ times. Head $1\frac{1}{5}$ to $1\frac{1}{2}$ times as long as broad; snout broad, lower jaw slightly projecting, as long as eye in the young, $1\frac{1}{2}$ to $1\frac{2}{3}$ times in the adult; eye perfectly lateral, 3 (young) to 6 times in length of head, $1\frac{1}{2}$ (young) to 4 times in interorbital width; width of mouth equal to or a little less than interocular width; vomero-palatine teeth forming an uninterrupted band, which is narrower than the band of præmaxillary

Fig. 238.



Schilbe mystus.
Near Cairo (F. N.). $\frac{1}{3}$.

teeth. Nasal barbel $\frac{2}{5}$ to $\frac{3}{5}$ length of head; maxillary barbel longer, $\frac{1}{2}$ to $\frac{3}{4}$ length of head; inner mandibular barbel $\frac{1}{4}$ to $\frac{1}{2}$ length of outer, which is inserted behind it and equals or exceeds maxillary barbel. Gill-rakers rather long, widely set, 9–13 on lower part of anterior arch. Dorsal I 5–6, partly or entirely in advance of ventral fins, and $1\frac{3}{4}$ to $2\frac{1}{4}$ times as distant from caudal as from end of snout; its spine slender, feebly serrated behind, measuring $\frac{3}{5}$ to $\frac{3}{4}$ length of head, produced into a short filament. Anal 53–67, 3 or 4 anterior rays simple, following gradually decreasing in length. Pectoral reaching or not ventral, its spine nearly as long as and stronger than that of dorsal, feebly serrated on inner side. Caudal deeply forked, with more or less pointed lobes. Caudal peduncle as long as deep or a little deeper than long. Silvery, darker on the back; a blackish ill-defined blotch on each side above the pectoral fin, corresponding to the thinned skin over the air-bladder; dorsal and pectoral sometimes blackish. Some young specimens with three dark bands on each side (var. *fasciata*, Steind.), the upper along

the back and continued on the upper lobe of the caudal fin, the lower extending from below the pectoral fin to the lower lobe of the caudal, the middle one from the humeral spot to the root of the caudal fin; such specimens have also one or two dark bands along the anal fin, traces of which may persist in the adult.

Total length 340 millim.

Nile and Tropical Africa.

1. Hgr., one of the types of *S. intermedius*.	Lower Nile.	Dr. Rüppell (C.).
2–6. Ad. & hgr.	,,	J. Petherick, Esq. (C.).
7–10. Ad., hgr., & yg.	,,	S. S. Allen, Esq. (P.).
11. Skel.	,,	,,
12–13. Yg.	Bahr-el-Tawilah, L. Menzaleh.	L. Loat, Esq. (C.).
14–19. Hgr. & yg.	Near Samannud.	,,
20–25. Ad. & hgr.	Rosetta Nile, downstream side of barrage.	,,
26–28, 29–32. Ad., hgr., & yg.	Near Cairo.	,,
33–35. Hgr. & yg.	Beni Souef.	,,
36. Ad.	Birket Karun, Fayum.	Dr. W. A. Cunnington and C. L. Boulenger, Esq. (C.).
37–39. Hgr. & yg.	Bahr Selah, Fayum.	L. Loat, Esq. (C.).
40–41. Ad.	Luxor.	,,
42–48. Yg.	Near Luxor.	,,
49–53. Yg.	Between Luxor and Assuan.	,,
54–56. Ad. & hgr.	Near Assuan.	,,
57, 58, 59, 60. Hgr. & yg.	Khartum.	J. Petherick, Esq. (C.).
61–66. Ad. & yg.	Wed Medine, Blue Nile.	L. Loat, Esq. (C.).
67–70. Yg.	Fashoda, White Nile.	,,
71–75. Yg.	Sobat.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
76–77. Yg., types of *S. dispila*.	Gondokoro.	J. Petherick, Esq. (C.).
78. Ad.	Buganga, L. Victoria.	Mr. E. Degen (C.).
79. Ad.	Wondo R., L. Abaia.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
80. Ad.	L. Chad.	Capt. G. B. Gosling (P.).
81–82. Hgr.	Komadugu R., Chad Basin.	Paris Museum (E.).

83–84. Ad.	St. Louis, Senegal.	M. P. Delhez (C.).
85–91. Ad., hgr., & yg.	Kaëdi, „	„
92–96. Hgr. & yg.	Gambia.	J. S. Budgett, Esq. (P.).
97. Yg.	Oyun R., S. Nigeria.	A. E. Kitson, Esq. (P.).
98–104. Yg.	Oyun R., at Abo, S. Nigeria.	Major G. E. Bruce (P.).
105. Yg.	„ „	Dr. W. J. Ansorge (C.).
106–107. Hgr.	Lagoon at Asaba, S. Nigeria.	Major G. E. Bruce.
108. Yg.	Sapelle, S. Nigeria.	Dr. W. J. Ansorge (C.).
109. Hgr., type of *S. dispila*.	Niger.	Mr. L. Fraser (C.).
110–111. Hgr. & yg.	Old Calabar.	Miss Kingsley (C.).
112. Ad.	Gaboon.	
113. Yg.	Lower Congo.	M. A. Greshoff (C.) ; Utrecht Museum (E.).
114. Yg.	Kondue, Kassai.	M. Luja (C.).
115. Yg.	Bangala Country, Congo.	M. De Meuse (C.).
116. Yg.	Monsembe, Upp. Congo.	Rev. J. H. Weeks (P.).
117. Ad., skin.	L. Mweru.	Sir A. Sharpe (P.).
118. Yg.	L. Bangwelu.	F. H. Melland, Esq. (P.).
119. Hgr.	N.W. Rhodesia, 20 m. north of Zambesi.	Dr. J. D. F. Gilchrist (P.).
120. Ad.	Kafue R., Upp. Zambesi.	„
121. Ad.	„ „	T. Codrington, Esq. (P.).
122. Hgr.	„ „	Rev. F. A. Rogers and E. C. Chubb, Esq. (P.).
123. Yg.	Kazungula, „	Rev. L. Jalla (C.) ; Turin Museum (P.).
124–125. Yg.	Caculovar R., Mossamedes.	Dr. W. J. Ansorge (C.).

2. SCHILBE URANOSCOPUS.

Rüpp. Fortsetz. Beschr. n. Fische, p. 4, pl. i. fig. 1 (1832) ; Günth. Cat. Fish. v. p. 49 (1864), and Petherick's Trav. ii. p. 222 (1869) ; Bouleng. Fish. Nile, p. 315, pl. lv. fig. 2 (1907).

Schilbe isidori, Cuv. & Val. Hist. Poiss. xiv. p. 375, pl. cccxii. (1839).

? *Schilbe emini*, Pfeff. Thierw. O.-Afr., Fische, p. 32 (1896) ; Vincig. Ann. Mus. Genova, (2) xix. 1898, p. 245.

Closely related to and agreeing in most respects with the preceding, from which it is to be distinguished by the following characters :—

Upper profile of head nearly horizontal, the nape ascending very abruptly from the occiput to the dorsal fin; eye larger and supero-lateral in position, its diameter $4\frac{1}{2}$ to $5\frac{1}{3}$ times in length of head in adult, $1\frac{2}{3}$ to $2\frac{1}{3}$ times in interocular width, which is less than width of mouth; maxillary barbel not $\frac{1}{2}$ length of head in adult. Anal 67–75. Caudal with

Fig. 239.

Schilbe uranoscopus.
White Nile (F. N.). $\frac{1}{3}$.

rounded or obtusely pointed lobes. Silvery, back steel-blue, head sea-green; fins flesh-coloured; a more or less distinct brown streak on the upper lobe of the caudal fin; young sometimes with a dark lateral band and a black spot on the dorsal and pectoral fins.

Lower Nile to Bahr-el-Gebel; East Africa (Uniamwesi and Ganana R.)?—Type in Senckenberg Museum, Frankfort (Main).

1. One of the types.	Cairo.	Dr. Rüppell (C.).
2. Skel.	Nile.	,,
3–4. Yg.	Near Luxor.	L. Loat, Esq. (C.).
5–10. Yg.	Between Luxor and Assuan.	,,
11. Ad.	Assuan.	,,
12–13. Ad.	Khartum.	J. Petherick, Esq. (C.).
14. Skel.	,,	,,
15–20. Yg.	Wad Medine, Blue Nile.	L. Loat, Esq. (C.).
21. Hgr.	Near Tonga, between Sobat and L. No.	,,
22–29. Ad. & hgr.	Mouth of L. No.	,,
30. Ad.	Gondokoro.	,,

11. SILURANODON.

Bleek. Acta Soc. Sc. Ind.-Néerl. iv. 1858, p. 255, and Nederl. Tijdschr. Dierk. i. 1863, p. 115; Günth. Cat. Fish. i. p. 55 (1864); Bouleng. Fish. Nile, p. 318 (1907).

Body elongate, very strongly compressed, the præcaudal region very short. A very small rayed dorsal fin, without spine, no adipose fin; anal fin much elongate, extending from the ventrals to the caudal. Pectoral fin with a spinous ray. Ventral fin small, with 6 rays. No teeth. Eye large, with free border, on a level with the mouth. Nostrils rather close together. Four pairs of barbels: nasal, maxillary, and two mandibulars. Gill-membranes free, deeply notched. Air-bladder large and free.

Vertebræ 51 (11+40). 10 branchiostegal rays.

A single species.

1. SILURANODON AURITUS.

Silurus auritus, I. Geoffr. Descr. Egypte, Poiss. p. 289, pl. xi. figs. 1 & 2 (1827); Cuv. & Val. Hist. Poiss. xiv. p. 368 (1839).

Schilbe auritus, Rüpp. Beschr. n. Fische Nil, p. 5 (1829).

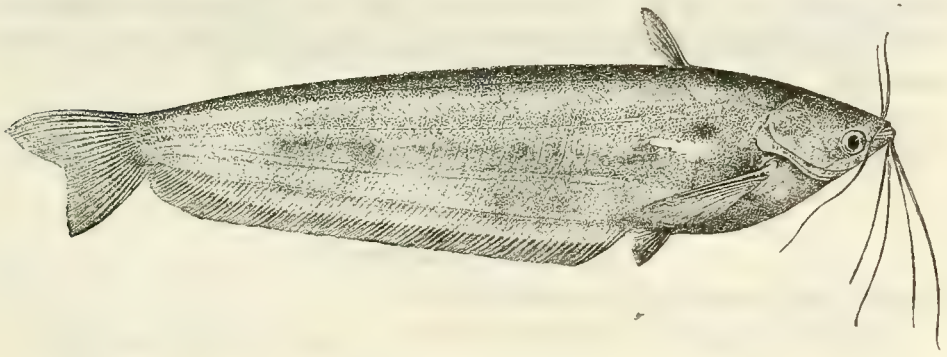
Ouëd denné, Rifaud, Voy. Egypte, pl. cc. (1830).

Siluranodon auritus, Bleek. Act. Soc. Sc. Ind.-Néerl. iv. 1858, p. 256; Günth. Cat. Fish. v. p. 55 (1864), and Petherick's Trav. ii. p. 226 (1869); Bouleng. Fish. Nile, p. 318, pl. lvi. fig. 2 (1907).

Depth of body 4 to 5 times in total length, length of head 5 to 6 times. Head $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad; snout broad, rounded, as long as eye; lower jaw usually projecting; eye infero-lateral, better visible from below than from above, 4 to $4\frac{1}{2}$ times in length of head and $1\frac{3}{4}$ to 3 times in interocular width; latter greater than width of mouth. Nasal barbel nearly as long as or a little longer than head; maxillary barbel $1\frac{1}{4}$ to $1\frac{2}{3}$ times length of head; mandibular barbels close together on the chin, equal in length, or inner a little longer than outer, about $\frac{1}{3}$ of the total length. Gill-rakers long and setiform, 50 to 60 on lower part of anterior arch. Dorsal fin small, with 5 rays, all except the first very feeble and close together, the base of the fin being extremely short; its distance from caudal $2\frac{1}{2}$ to 3 times that from end of snout. Anal 74–85, of equal depth throughout, and about half length of head, nearly reaching caudal. Pectoral rounded, a little longer than head, extending

beyond base of ventral, its spine feeble, smooth, without any serration, and about $\frac{3}{4}$ to $\frac{4}{5}$ the length of the fin. Ventral $\frac{1}{3}$ to $\frac{2}{5}$ length of head, inserted below dorsal, or just behind vertical of its base. Caudal notched, with rounded or obtusely pointed lobes, upper a little longer than lower. Coloration silvery; head and a dorsal band dull greyish brown, finely speckled with blackish, this band extending on the upper lobe of the caudal fin; a red spot, shot with gold, on the gill-cover; a

Fig. 240.



Siluranodon auritus.
Near Cairo (F. N.). $\frac{5}{7}$.

more or less distinct dark blotch behind the shoulder; sometimes a dark streak above the lateral line; dorsal fin often blackish; caudal fin often edged with blackish; anal fin often speckled with blackish, especially on the lower half.

Total length 175 millim.

Lower Nile to White Nile.—Type in Paris Museum.

1. Ad.	Damietta Nile, downstream side of barrage.	L. Loat, Esq. (C.).
2–13. Ad.	Rosetta Nile, downstream side of barrage.	,,
14. Skel.	,, ,,	,,
15–16. Ad.	Near Cairo.	Dr. J. C. Mitchell (P.).
17. Ad.	Luxor.	L. Loat, Esq. (C.).
18. Hgr.	Near Luxor.	,,
19. Hgr.	Between Assiut and Abu Tig.	,,
20–27. Ad. & hgr.	Assuan.	,,
28–33. Hgr.	Gharb-el-Aish, White Nile.	,,
34–43. Hgr. & yg.	Fashoda, ,,	,,
44–46. Hgr.	Mouth of L. No, ,,	,,

12. PHYSAILIA.

Boulenger. Ann. & Mag. N. H. (7) viii. 1901, p. 445, and Fish. Nile, p. 321 (1907).

Body elongate, very strongly compressed, the præcaudal region very short; no rayed dorsal fin, a very small adipose; anal fin much elongate, extending from the ventrals to the caudal. Pectoral fin with a spinous ray. Ventral fin small, with 6 rays. A narrow band of very small teeth in the jaws, none on the palate. Eye large, with free border, on a level with the mouth. Nostrils close together. Four pairs of barbels: nasal, maxillary, and two mandibulars. Gill-membranes free, deeply notched. Air-bladder small and free.

Vertebræ 52 (11+41). 8 branchiostegal rays.

Tropical Africa.—Three species.

Synopsis of the Species.

Pectoral spine serrated on inner side; barbels not half as long as head and body; A. 64–74	1. *P. pellucida*, Blgr., p. 300.
Pectoral spine serrated on inner side; barbels not half as long as head and body; A. 61.	2. *P. occidentalis*, Pellegr., p. 301.
Pectoral spine not serrated; barbels about half as long as head and body; A. 69–72 . .	3. *P. somalensis*, Vinciq., p. 301.

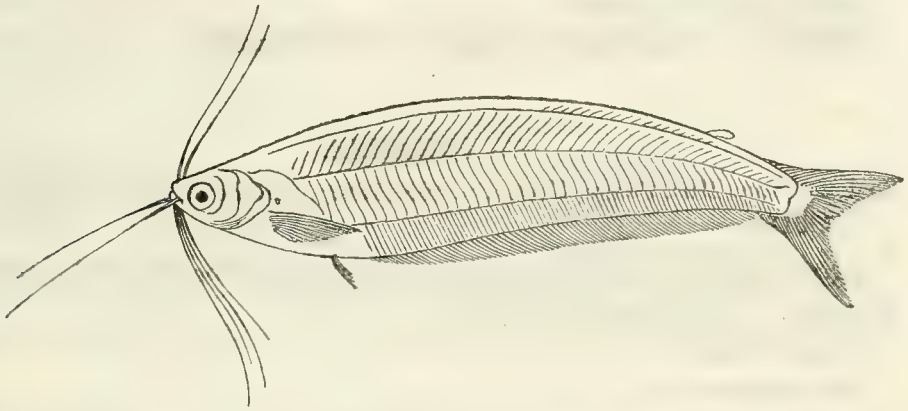
1. PHYSAILIA PELLUCIDA.

Boulenger, ll. cc., fig.

Depth of body 4 to $4\frac{1}{2}$ times in total length, length of head 6 to $6\frac{1}{2}$ times. Snout broad, rounded, not projecting beyond mouth, a little shorter than eye, which is perfectly lateral, about 3 times in length of head, and $1\frac{1}{4}$ times in interocular width; latter a little greater than width of mouth. Nasal and maxillary barbels $\frac{2}{7}$ to $\frac{1}{3}$ of total length, reaching extremity of pectoral or a little beyond; mandibular barbels close together on the chin, subequal in length, $\frac{1}{3}$ to $\frac{2}{5}$ of total length. Gill-rakers long and slender, about 30 on lower part of anterior arch. Pectoral obtusely pointed, as long as head, extending beyond root of ventral, the spine a little shorter and serrated on inner side. Ventral about $\frac{1}{3}$ length of pectoral, about $2\frac{1}{2}$ times as distant from caudal as from end of snout. Anal 65–74, longest rays $\frac{1}{3}$ length of head, narrowly separated from caudal, which is deeply forked, with pointed lobes.

Colourless, translucent in life, the air-bladder showing through the thin skin; minute black dots may be present on the vertebral line and near the anal fin.

Fig. 241.



Physailia pellucida.
Type (F. N.).

Total length 93 millim.
Upper Nile.

1–2, 3–17. Types.	Omdurman.	L. Loat, Esq. (C.).
18. Skel.	,,	,,

2. PHYSAILIA OCCIDENTALIS.

Ailia occidentalis, Pellegr. Bull. Mus. Paris, 1901, p. 331.
Physailia occidentalis, Bouleng. Fish. Nile, p. 322 (1907).

Depth of body $4\frac{1}{4}$ times in total length, length of head 6 times. Snout a little shorter than eye, which is 3 times in length of head; jaws equal in front; barbels subequal, extending slightly beyond origin of anal. Pectoral as long as head, the spine feebly serrated on inner side. Anal 61, reaching caudal. Pale olive above, dotted with blackish; sides silvery; belly yellowish; an ill-defined blackish spot at the base of the caudal.

Total length 85 millim.

Cape Lopez, Gaboon.—Type in Paris Museum.

3. PHYSAILIA SOMALENSIS.

Ailia somalensis, Vinciq. Ann. Mus. Genova, (2) xvii. 1897, p. 346.
Physailia somalensis, Bouleng. Fish. Nile, p. 323 (1907).

Depth of body 5 times in total length, length of head $6\frac{1}{3}$ times.

Snout shorter than eye, which is $3\frac{2}{3}$ times in length of head; jaws equal in front; barbels subequal, extending to middle of body. Pectoral slightly longer than head, the spine not serrated. Anal 69–72, not reaching base of caudal. Uniform yellowish.

Total length 65 millim.

Ganana R., Somaliland.—Types in Genoa Museum.

13. PARAILIA.

Bouleng. Ann. Mus. Congo, Zool. i. p. 105 (1899), and Poiss. Bass. Congo, p. 275 (1901).

Agrees with the preceding genus, except in the absence of the adipose dorsal fin. Vertebræ 54 (10+44).

Congo, Niger.

Two species:—

Longest barbels not more than twice length of head. 1. *P. congica*, Blgr., p. 302.
Longest barbels nearly three times length of head . 2. *P. longifilis*, Blgr., p. 303.

1. PARAILIA CONGICA.

Bouleng. ll. cc. pp. 106, 276, Ann. pl. xli. fig. 3.

Depth of body 5 to $5\frac{1}{2}$ times in total length, length of head 6 to 7 times. Snout rounded, not projecting beyond mouth, shorter than eye, which is $3\frac{1}{4}$ to $3\frac{1}{2}$ times in length of head, and $1\frac{1}{4}$ times in interocular width; latter slightly greater than width of mouth. Nasal barbel about as long as head, maxillary barbel $1\frac{1}{2}$, mandibular twice, latter close

Fig. 242.

Parailia congica.
Type (A. M. C.).

together on the chin. Gill-rakers long and slender, about 25 on lower part of anterior arch. Pectoral obtusely pointed, as long as head, extending beyond root of ventral, the spine moderately strong, not serrated. Anal 80–92, reaching root of caudal; latter forked. Pale olive, dotted with blackish; head and vertebral line dark brown.

Total length 80 millim.

Congo, Niger.—Types in Congo Museum, Tervueren.

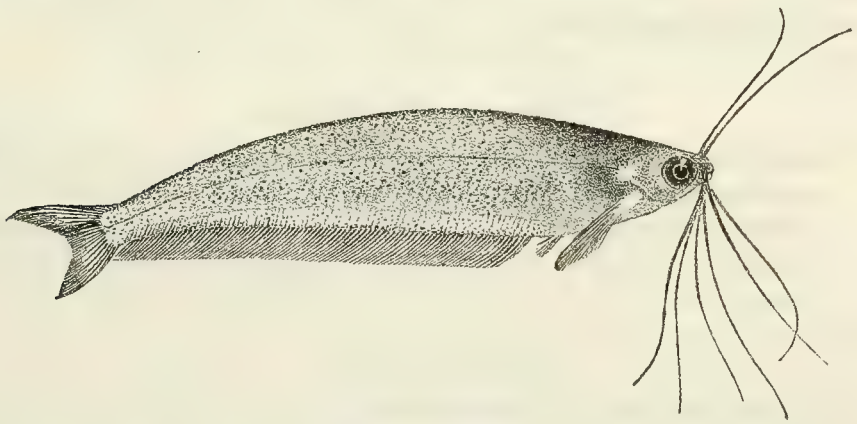
1–2. Types.	Ebinga R. (L. Leopold II.), Upp. Congo.	M. P. Delhez (C.).
3. Skel.	„ „	„
4. Ad.	Abo, Niger Delta.	Dr. W. J. Ansorge (C.).

2. PARAILIA LONGIFILIS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 37, pl. x. fig. 3 (1902).

Depth of body $4\frac{2}{3}$ to $5\frac{1}{3}$ times in total length, length of head 6 to 7 times. Snout rounded, not projecting beyond mouth, half as long as eye, which is $2\frac{1}{2}$ times in length of head and equals interocular in width. Nasal barbel 2 to $2\frac{2}{3}$ times as long as head, maxillary and mandibulars

Fig. 243.



Parailia longifilis.
Type (A. M. C.).

about 3 times. Gill-rakers long and slender, about 25 on lower part of anterior arch. Pectoral a little longer than head, the spine rather feeble, not serrated. Anal 80–90, reaching root of caudal; latter forked. Yellowish, dotted with black; a dark streak along caudal in its upper half.

Total length 100 millim.

Upper Congo (Ubanghi).—Types in Congo Museum, Tervueren.

1–2. Types.	Banzyville, Ubanghi.	Capt. Royaux (C.).

14. BAGRUS.

Cuv. Règne Anim. ii. p. 204 (1817), part.*; Bleek. Nederl. Tijdschr. Dierk. i. 1863, p. 96 ; Günth. Cat. Fish. v. p. 69 (1864); Bouleng. Fish. Nile, p. 323 (1907).

Body moderately elongate, feebly compressed. Dorsal and anal fins short, the former consisting of a spine and 8 to 11 soft rays and followed by a very long adipose fin. Pectoral fin with a spine. Ventral fin with 6 rays, inserted below or just behind the vertical of the posterior part of the dorsal fin. Four pairs of barbels: nasal, maxillary, and two mandibulars. Nostrils widely separated from each other. Eye superior or supero-lateral, with free border. Jaws with a band of villiform teeth; a similar band of teeth on the vomers. Gill-membranes free, deeply notched. Air-bladder large, free.

22 or 23 præcaudal and 30 to 34 caudal vertebræ. 13 branchiostegal rays.

Nile and Tropical Africa.

Synopsis of the Species.

I. Occipital process long and narrow and in contact with or narrowly separated from first interneural bone (which is hidden under the skin).

A. Distance between rayed dorsal and adipose fin less than base of former ; anal with 12–15 rays (8–10 branched); maxillary barbel much longer than head.

Head $1\frac{3}{5}$ to $1\frac{3}{4}$ times as long as broad; last ray of dorsal behind vertical of inner ray of ventral ; maxillary barbel extending to extremity of ventral or beyond	1. *B. bayad*, Forsk., p. 305.
Head $1\frac{2}{3}$ to $1\frac{4}{5}$ times as long as broad ; last ray of dorsal in advance of inner ray of ventral ; maxillary barbel not extending beyond ventral	2. *B. orientalis*, Blgr., p. 307.
Head $1\frac{1}{3}$ to $1\frac{3}{5}$ times as long as broad ; last ray of dorsal in advance of inner ray of ventral; maxillary barbel extending nearly to base of ventral or beyond	3. *B. docmac*, Forsk., p. 308.

* The name appears only in the French form, "Les Bagres," in the two editions of the 'Règne Animal.' The name was first latinized by Rüppell in 1829, as quoted in the synonymy of the Nilotic species.

Head $1\frac{2}{5}$ to $1\frac{1}{2}$ times as long as broad; last ray of dorsal in advance of ventral; maxillary barbel extending to end of pectoral or a little beyond in the adult, to ventral in the young . . . . . 4. *B. degeni*, Blgr., p. 311.

B. Distance between rayed dorsal and adipose fin at least equal to base of latter.

Head not more than $1\frac{1}{2}$ times as long as broad; maxillary barbel much longer than head; anal with 10 or 11 rays . . . . . 5. *B. urostigma*, Vincig., p. 312.

Head nearly twice as long as broad; maxillary barbel shorter than head . . . . . 6. *B. meridionalis*, Gthr., p. 312.

II. Occipital process not longer than eye, widely separated from first interneural bone; head $1\frac{1}{2}$ times as long as broad; rayed dorsal and adipose fin narrowly separated; maxillary barbel extending beyond base of ventral; anal with 11 rays (7 branched) . . . . . 7. *B. ubangensis*, Blgr., p. 313.

1. BAGRUS BAYAD.

Silurus bajad, Forsk. Descr. Anim. p. 66 (1775).

Porcus bayad, I. Geoffr. Descr. Egypte, Poiss. p. 303, pl. xv. figs. 1 & 2 (1827).

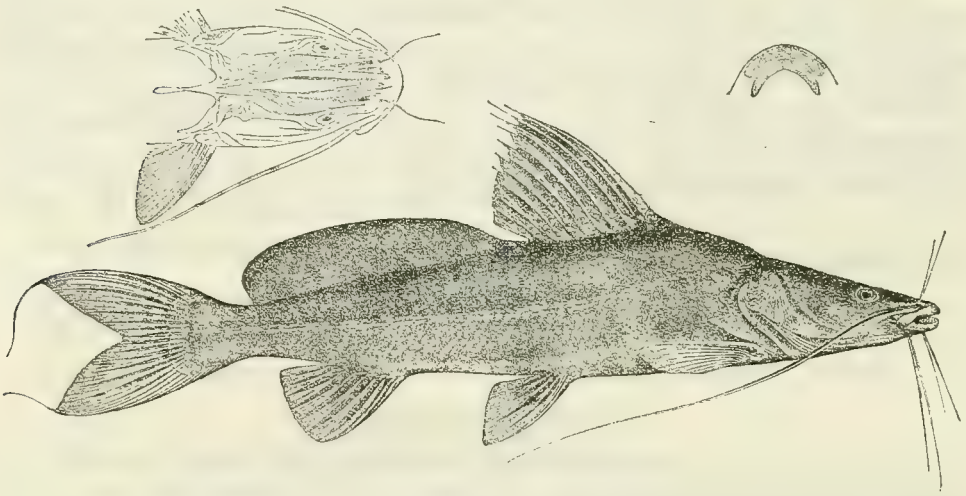
Bagrus bayad, Rüpp. Beschr. n. Fische Nil, p. 5 (1829); Cuv. & Val. Hist. Poiss. xiv. p. 397 (1839); Günth. Cat. Fish. v. p. 69 (1864), and Petherick's Trav. ii. p. 227 (1869); Bouleng. Fish. Nile, p. 324, pl. lvii. (1907).

Bagara Bachika, Rifaud, Voy. Egypte, pl. cxciv. (1830).

Depth of body $4\frac{1}{4}$ to $5\frac{2}{3}$ times in total length, length of head $3\frac{1}{3}$ to 4 times. Head much depressed, $1\frac{3}{5}$ to $1\frac{3}{4}$ times as long as broad, smooth above or finely striated on sides of elongate fontanelle; occipital process long and narrow, in contact with first interneural bone (which is hidden under the skin); snout broadly rounded or truncate, projecting beyond lower jaw, $1\frac{2}{3}$ (young) to $3\frac{2}{3}$ times as long as eye, which is $4\frac{1}{2}$ (young) to 11 times in length of head and $1\frac{1}{2}$ to $3\frac{2}{3}$ times in interocular width; width of mouth $2\frac{1}{5}$ to $2\frac{2}{3}$ times in length of head; præmaxillary band of teeth 6 or 7 times as long as broad, a little shorter than and about as broad as or a little narrower than the band of vomerine teeth. Nasal barbel $\frac{1}{4}$ (adult) to $\frac{3}{5}$ length of head; maxillary barbel 2 (adult) to $3\frac{1}{3}$ times length of head, reaching extremity of ventral or anal in the adult, caudal peduncle or caudal fin in the young; outer mandibular barbel $1\frac{1}{2}$ to 2 times length of inner, and $\frac{2}{5}$ to $\frac{2}{3}$ length of head. Gill-rakers

rather long, widely set, 11 to 16 on lower part of anterior arch. Dorsal I 9–11 (usually 10), last ray behind vertical of inner ray of ventral; spine smooth, moderately strong, $\frac{1}{2}$ to $\frac{3}{5}$ length of head; anterior soft rays more or less produced into filaments. Adipose dorsal $3\frac{1}{2}$ to 5 times as long as deep, about twice as long as rayed dorsal, from which it is narrowly separated. Anal 13–15 (9–10 branched).

Fig. 244.



Bagrus bayad.
Near Cairo (F. N.). $\frac{1}{5}$.

Pectoral $\frac{2}{5}$ to $\frac{1}{2}$ length of head, its spine moderately strong, feebly serrated on inner side. Ventral nearly equally distant from end of snout and from caudal. Caudal deeply forked, each lobe produced into a long filament. Caudal peduncle a little longer than deep. Pale grey to dark brown above, white beneath; fins yellow, caudal sometimes red; dark dots sometimes scattered on body and fins.

Total length 650 millim.

Nile System, Chad Basin, Senegal, Niger.

1. Yg.	L. Menzaleh.	L. Loat, Esq. (C.).
2. Hgr.	Near Ghet-el-Nassara, in fresh water.	,,
3. Skel.	Nile.	Dr. Rüppell (C.).
4. Skel.	,,	J. Petherick, Esq. (C.).
5. Skel.	,,	L. Loat, Esq. (C.).
6–7. Hgr.	Nile near Samannud.	,,
8. Ad.	Rosetta Nile, downstream side of barrage.	,,

9–28. Yg.	Nile near Cairo, upstream side of barrage.	L. Loat, Esq. (C.).
29–31. Ad. & yg.	Cairo.	,,
32. Ad.	Birket Karun.	Dr. W. A. Cunnington and C. L. Boulenger, Esq. (C.).
33–36. Hgr. & yg.	Beni Souef.	L. Loat, Esq. (C.).
37. Ad.	Biba.	,,
38. Yg.	Between Assiut and Abu Tig.	,,
39. Ad.	Nagadah.	,,
40–44. Yg.	Near Luxor.	,,
45–54. Yg.	Between Luxor and Assuan.	,,
55. Ad.	Assuan.	Dr. Rüppell (C.).
56–58. Hgr. & yg.	,,	L. Loat, Esq. (C.).
59. Ad.	I. of Arko.	,,
60–65. Hgr. & yg.	Khartum.	J. Petherick, Esq. (C.).
66. Ad.	Wad Medine, Blue Nile.	L. Loat, Esq. (C.).
67. Yg.	Kaka, White Nile.	,,
68. Hgr.	Polkom, Baro R. (Sobat).	Mr. P. C. Zaphiro (C.) ; W. N. McMillan, Esq. (P.).
69–70. Yg.	Fashoda, White Nile.	L. Loat, Esq. (C.).
71. Hgr.	Bahr Zeraf.	Capt. S. Flower (P.).
72–73. Ad.	Mouth of L. No, White Nile.	L. Loat, Esq. (C.).
74. Hgr.	Wadelai.	J. S. Budgett, Esq. (P.).
75. Ad.	Fajao, Victoria Nile.	,,
76. Ad.	Butyaba, L. Albert.	,,
77. Ad.	Shari R. at Maidugari.	Capt. G. B. Gosling (P.).
78. Ad.	St. Louis, Senegal.	M. P. Delhez (C.).
79–83. Hgr. & yg.	Kaëdi, ,,	,,
84–85. Ad. & hgr.	Mureji, Upper Niger.	J. S. Budgett, Esq. (P.).
86. Ad.	Niger.	W. A. Forbes, Esq. (P.).

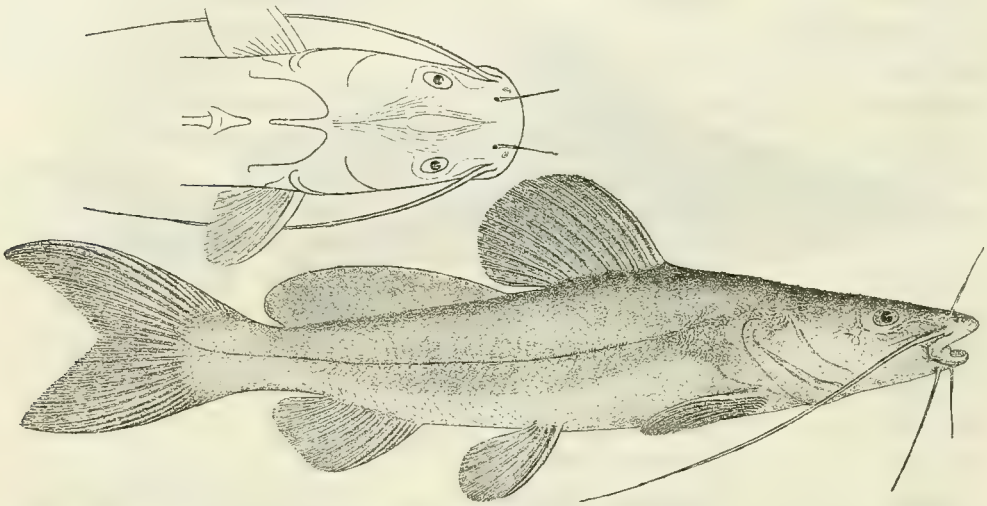
2. BAGRUS ORIENTALIS.

Bagrus bayad (non Forsk.), Playf. & Günth. Fish. Zanzib. p. 114 (1866).
Bagrus orientalis, Bouleng. Ann. Mus. Congo, Zool. ii. 1902, p. 37.

Depth of body 5 to 6 times in total length, length of head $3\frac{1}{4}$ to $3\frac{1}{2}$ times. Head much depressed, $1\frac{2}{3}$ to $1\frac{4}{5}$ times as long as broad, smooth above or finely striated on sides of elongate fontanelle; occipital long and narrow, narrowly separated from first interneural bone; snout truncate, projecting beyond lower jaw, 2 to $2\frac{2}{3}$ times as long as eye, which is 6 to 8 times in length of head and 2 or $2\frac{1}{3}$ times in interocular width; width of mouth $2\frac{1}{3}$ to $2\frac{1}{2}$ times in length of head; præmaxillary band of teeth 5 to 6 times as long as broad, nearly as broad as the band

of vomerine teeth. Nasal barbel $\frac{1}{5}$ to $\frac{1}{3}$ length of head, maxillary $1\frac{2}{3}$ to 2 times, reaching ventral or not quite so far, outer mandibular $\frac{3}{5}$ to $\frac{2}{3}$, inner mandibular $\frac{1}{3}$ to $\frac{2}{5}$. Gill-rakers rather long, widely set, 11 to 14 on lower part of anterior arch. Dorsal I 9–10, last ray above vertical of first ray of ventral; spine smooth, feeble, about $\frac{1}{2}$ length of head. Adipose dorsal 4 to $5\frac{1}{2}$ times as long as deep, about twice as long as rayed dorsal, from which it is separated by a space equal to $\frac{2}{5}$ to $\frac{2}{3}$ the base of the latter. Anal 14 (10 rays branched). Pectoral $\frac{3}{5}$ to $\frac{2}{3}$ length of head, its spine moderately strong, smooth, or very slightly serrated

Fig. 245.



Bagrus orientalis.
Type. $\frac{1}{3}$.

behind. Ventral a little nearer caudal than end of snout. Caudal deeply forked, with pointed lobes. Caudal peduncle a little longer than deep. Brown or olive above, white beneath; black dots sometimes scattered on the back and on the adipose and caudal fins.

Total length 350 millim.

Pangani River, East Africa, and Lake Nyassa.

1–2. Ad., types.	Pangani R.	Sir L. Playfair (C.).
3. Ad.	L. Nyassa.	Capt. E. L. Rhoades (P.).
4. Hgr.	,,	Prof. J. E. S. Moore (C.).

3. BAGRUS DOCMAC.

Silurus docmak, Forsk. Descr. Anim. p. 65 (1775).
Silurus bajad (non Forsk.), Sonnini, Trav. Egypt, p. 475, pl. xvi. fig. 2 (1800).
Porcus docmac, I. Geoffr. Descr. Egypte, Poiss. p. 204, pl. xv. figs. 3 & 4 (1827).

Bagrus docmac, Rüpp. Beschr. n. Fische Nil, p. 5 (1829); Cuv. & Val. Hist. Poiss. xiv. p. 404 (1839); Günth. Cat. Fish. v. p. 70 (1864), and Petherick's Trav. ii. p. 228 (1869); Vincig. Ann. Mus. Genova, (2) xix. 1898, p. 245; Boulenger. Fish. Nile, p. 237, pl. lviii. (1907).

Depth of body 4 to $5\frac{1}{3}$ times in total length, length of head $3\frac{1}{4}$ to 4 times. Head much depressed, $1\frac{1}{5}$ to $1\frac{3}{5}$ times as long as broad, smooth above; occipital process long and narrow, in contact with or narrowly separated from interneural bone; snout broadly rounded, projecting beyond the lower jaw, $1\frac{2}{3}$ (young) to 4 times as long as eye, which is 5

Fig. 246.

Bagrus docmac.
Nile Delta (F. N.). $\frac{1}{5}$.

(young) to 12 times in length of head and $1\frac{2}{3}$ to $3\frac{2}{3}$ times in interocular width; width of mouth 2 to $2\frac{1}{2}$ times in length of head; præmaxillary band of teeth 5 to 7 times as long as broad, a little shorter than and about as broad as the band of vomerine teeth. Nasal barbel $\frac{1}{5}$ (adult) to $\frac{1}{2}$ length of head; maxillary barbel $1\frac{4}{5}$ (adult) to $3\frac{1}{4}$ times length of head, reaching ventral or not quite so far in adult, anal or caudal peduncle in young; outer mandibular barbel $1\frac{2}{5}$ to $2\frac{1}{4}$ times length of inner, and $\frac{2}{3}$ to $1\frac{1}{4}$ times length of head. Gill-rakers rather long, widely set, 9 to 12 on lower part of anterior arch. Dorsal I 8–10 (usually 9), last ray in advance of vertical of inner ray of ventral; spine smooth, moderately strong, not $\frac{1}{2}$ length of head; anterior soft rays more or less produced into filaments in the adult. Adipose dorsal 4 to 5 times as long as deep, $1\frac{2}{3}$ to 2 times as long as rayed dorsal, from which it is

narrowly separated. Anal 12–14 (8 or 9 rays branched). Pectoral about $\frac{3}{5}$ to $\frac{2}{3}$ length of head, its spine moderately strong, feebly serrated on inner side. Ventral equally distant from eye and from caudal, or a little nearer latter. Caudal deeply forked, upper lobe produced into a long filament. Caudal peduncle not or but little longer than deep. Greyish blue to dark olive above, white beneath, the whole body sometimes shot with gold and green; some blackish may be present on the dorsal, anal, and ventral fins; blackish dots sometimes present on the posterior part of the back and on the adipose fin.

Total length 600 millim.

Nile Delta to Lake Victoria and Shoa tributaries of Blue Nile; Ganana River, Lake Stephanie, Omo and Sagan Rivers.

1–5. Ad., hgr., & yg.	Lower Nile.	J. Petherick, Esq. (C.).
6. Skel.	„	Dr. Rüppell (C.).
7–10. Ad., hgr., & yg.	Nile near Samannud.	L. Loat, Esq. (C.).
11–14. Hgr. & yg.	Cairo.	Dr. Rüppell (C.).
15–18. Ad. & yg.	Near Cairo.	L. Loat, Esq. (C.).
19. Hgr.	Birket Karun.	Dr. W. A. Cunnington and C. L. Boulenger, Esq. (C.).
20. Ad.	Biba.	L. Loat, Esq. (C.).
21–23. Hgr.	Beni Souef.	„
24. Hgr.	Sanhur.	„
25. Yg.	Assiut.	„
26. Hgr.	Between Assiut and Abu Tig.	„
27–29. Hgr. & yg.	Luxor.	„
30–39. Yg.	Near Luxor.	„
40–41. Hgr.	Edfu.	„
42–51. Yg.	Between Luxor and Assuan.	„
52–60. Ad., hgr., & yg.	Assuan.	„
61. Ad.	Mirrwau, Nubia.	„
62. Hgr.	Korosko, „	„
63. Hgr.	Derr, „	„
64. Hgr.	Cataract at Hannak, Nubia.	„
65–69, 70–73, 74–75. Hgr. & yg.	Khartum.	J. Petherick, Esq. (C.).
76. Hgr.	Omdurman.	L. Loat, Esq. (C.).
77. Ad.	Tewfikyeh, White Nile.	„
78–80. Hgr. & yg.	Bunjako, L. Victoria.	Mr. E. Degen (C.).
81. Yg.	Buddu Coast, L. Victoria.	Mr. M. Simon (C.).

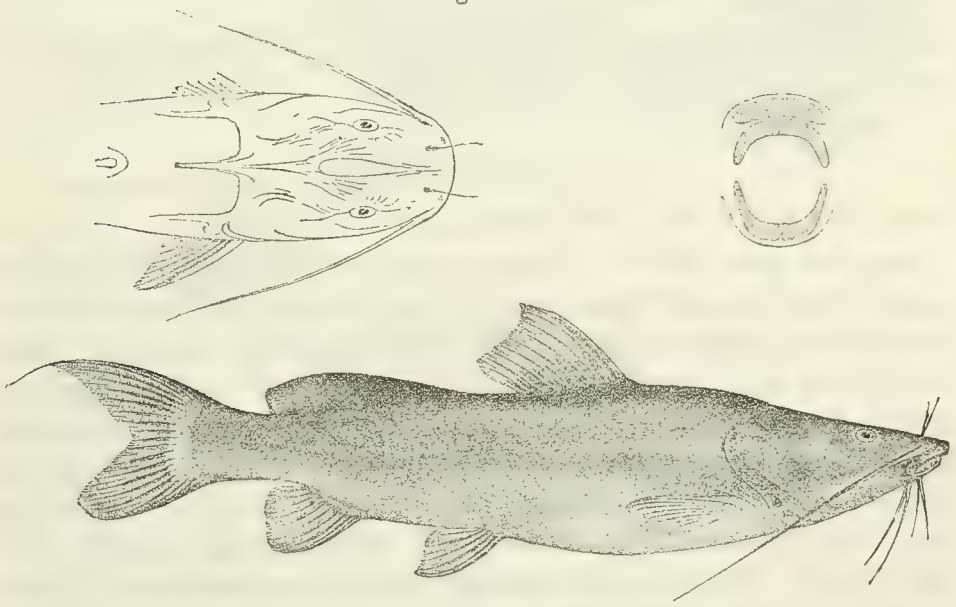
82. Ad.	Moger R. (Blue Nile), Shoa.	Mr. E. Degen (C.).
83–85. Hgr. & yg.	Ergino R. (Omo).	Mr. P. C. Zaphiro (C.); W. N. MacMillan (P.).
86. Hgr.	Sagan R. at Wondo (L. Abaia).	,,

4. BAGRUS DEGENI.

Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 438, Fish. Nile, p. 331, pl. lix. (1907), and Ann. Mus. Genova, (3) iv. 1909, p. 307.

Depth of body $4\frac{1}{2}$ to $5\frac{1}{2}$ times in total length, length of head $3\frac{1}{5}$ to $3\frac{2}{3}$ times. Head much depressed, $1\frac{2}{5}$ to $1\frac{1}{2}$ times as long as broad, smooth above; occipital process long and narrow, narrowly separated from interneural bone; snout broadly rounded, projecting beyond lower

Fig. 247.



Bagrus degeni.
Type (F. N.). $\frac{1}{4}$.

jaw, $1\frac{2}{3}$ (young) to $2\frac{3}{4}$ times as long as eye, which is 5 (young) to 11 times in length of head and $1\frac{1}{2}$ to $2\frac{3}{4}$ times in interocular width; width of mouth 2 to $2\frac{1}{2}$ times in length of head; præmaxillary band of teeth 6 or 7 times as long as broad, shorter than and as broad as or a little narrower than the vomerine band. Nasal barbel $\frac{1}{7}$ (adult) to $\frac{1}{3}$ length of head; maxillary barbel $1\frac{1}{4}$ (adult) to $2\frac{1}{3}$ times length of head, extending to end of pectoral fin or a little beyond in adult, to end of ventral in young; outer mandibular barbels $1\frac{1}{2}$ to $1\frac{5}{6}$ times length

of inner and $\frac{1}{2}$ to nearly once length of head. Gill-rakers rather long, widely set, 10 or 11 on lower part of anterior arch. Dorsal I 9, last ray in advance of vertical of inner ray of ventral; spine smooth, less than $\frac{1}{2}$ length of head; longest soft ray $\frac{1}{2}$ to $\frac{3}{4}$ length of head. Adipose dorsal 4 to $5\frac{1}{2}$ times as long as deep, $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as rayed dorsal; the space between the two dorsal fins $\frac{1}{2}$ to $\frac{2}{3}$ the length of the first. Anal 12–13 (8 or 9 rays branched). Pectoral $\frac{1}{2}$ to $\frac{3}{5}$ length of head, its spine moderately strong, not serrated in the adult. Ventral equally distant from eye and from caudal, or a little nearer latter. Caudal deeply forked, upper lobe produced into a long filament. Caudal peduncle not or but little longer than deep. Blackish brown or dark steel-blue above, whitish or brassy yellow beneath; fins grey to blackish.

Total length 490 millim.

Lake Victoria.

1–5. Ad., hgr., & yg., types.	Entebbe.	Mr. E. Degen (C.).
6. Ad., type.	Near Entebbe.	,,

5. BAGRUS UROSTIGMA.

Vincig. Ann. Mus. Genova, (2) xv. 1895, p. 36.

Depth of body $6\frac{1}{4}$ to $6\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ times. Head not more than once and $\frac{1}{2}$ as long as broad, smooth above; snout about $\frac{2}{5}$ length of head; eye 8 (young) to 14 times in length of head, 2 to 4 times in interorbital width; nasal barbel reaching anterior border of eye; maxillary barbel reaching middle of adipose fin in the young, end of rayed dorsal in the adult. Dorsal I 9, longest ray a little longer than head; last ray above ventral. Adipose fin twice as long as its distance from rayed dorsal, which equals base of latter. Anal 10–11. Pectoral spine strongly serrated on inner side. Caudal forked, upper lobe slightly the longer. Reddish brown above, yellowish white beneath; caudal fin dotted with black.

Total length 720 millim.

Ganana River, Somaliland.—Types in Genoa Museum.

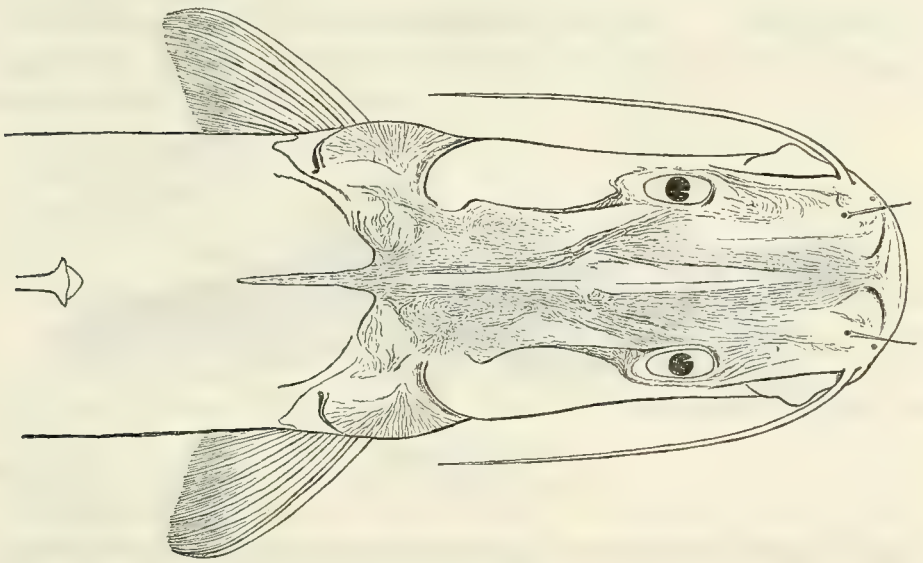
6. BAGRUS MERIDIONALIS.

Günth. Proc. Zool. Soc. 1893, p. 626; Boulenq. Ann. Mus. Congo, Zool. ii. p. 38 (1902).

Depth of body $6\frac{1}{2}$ times in total length, length of head $3\frac{1}{3}$ times. Head nearly twice as long as broad, finely striated above; occipital

process long and narrow; snout not projecting beyond lower jaw, $2\frac{1}{2}$ times as long as eye, which is 8 times in length of head and twice in interocular width. Nasal barbel $\frac{1}{7}$ length of head, maxillary $\frac{3}{4}$, outer mandibular $\frac{2}{5}$, inner mandibular $\frac{1}{3}$. Dorsal I 9, last ray in front of ventral; spine smooth, moderately strong, not $\frac{1}{2}$ length of head.

Fig. 248.



Bagrus meridionalis.
Type, upper view of head. $\frac{1}{2}$.

Adipose dorsal low, widely separated from rayed dorsal. Anal —? Ventral much nearer caudal than end of snout. Brown above, white beneath.

Total length 550 millim.

Upper Shiré River.

1. Type.	Upper Shiré.	A. Whyte, Esq. (C.); Sir H. H. Johnston (P.).

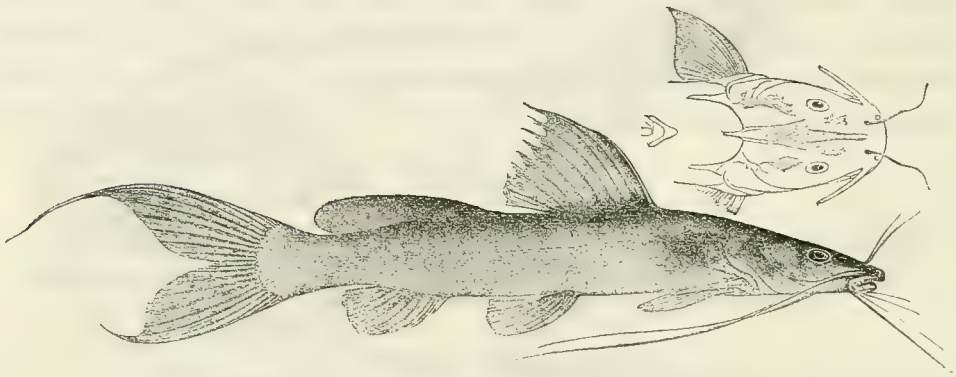
7. BAGRUS UBANGENSIS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 38, pl. xi. fig. 1 (1902).

Depth of body 7 times in total length, length of head 4 times. Head $1\frac{1}{3}$ times as long as broad, smooth above; snout broadly rounded, subtruncate, about $\frac{1}{3}$ length of head; eye 7 times in length of head, $2\frac{1}{3}$ times in interocular width; occipital process narrow, hardly as long as eye, widely separated from first interneural bone; mouth $\frac{2}{3}$ width of

head; band of præmaxillary teeth 6 times as long as broad, as broad as and close to the crescentic band of vomerine teeth; nasal barbel about $\frac{1}{2}$ length of head; maxillary barbel $2\frac{1}{3}$ times length of head, extending beyond root of ventral; inner mandibular barbel $\frac{2}{5}$ length of head, outer $\frac{4}{5}$. Dorsal I 8, longest branched ray nearly as long as head; last ray above inner ray of ventral. Adipose fin 5 times as long

Fig. 249.



Bagrus ubangensis.
Type (A. M. C.). $\frac{1}{3}$.

as deep, much longer than rayed dorsal and twice and $\frac{1}{3}$ its distance from the latter. Anal 11, 7 rays branched. Pectoral $\frac{2}{3}$ length of head, its spine strong and feebly denticulate on inner edge. Caudal deeply forked, both lobes prolonged into filaments. Caudal peduncle scarcely longer than deep. Brown above, with a few black dots, whitish beneath; a large blackish spot behind the shoulder.

Total length 300 millim.

Ubanghi.—Type in Congo Museum, Tervueren.

15. CHRYSICHTHYS.

Bleek. Act. Soc. Sc. Ind.-Neerl. iv. 1858, p. 60, and Nederl. Tijdschr. Dierk. i. 1863, p. 95; Günth. Cat. Fish. v. p. 70 (1864); Bouleng. Poiss. Bass. Congo, p. 277 (1901), and Fish. Nile, p. 333 (1907).

Melanodactylus, Bleek. Nederl. Tijdschr. Dierk. i. 1863, p. 95.

Chrysobagrus, Bouleng. Ann. Mus. Congo, i. p. 290 (1899).

Body moderately elongate, feebly compressed. Dorsal and anal fins short, the former consisting of a spine and 5 or 6 branched rays and followed by an adipose fin. Pectoral fin with a spine. Ventral fin

with 6 rays, inserted behind the vertical of the dorsal fin. Four pairs of barbels: nasal, maxillary, and two mandibulars. Nostrils widely separated from each other. Eye supero-lateral, with free border. Maxillary bone rather large, hidden in the lip but bordering the mouth; jaws with a band of villiform teeth; a band of teeth on the vomer, often extending also on the pterygoids. Gill-membranes free, deeply notched. Air-bladder large, free.

10 to 20 præcaudal and 24 to 27 caudal vertebræ. 8 to 10 branchiostegal rays. A more or less distinct foramen above the axil, leading to the membrane of the air-bladder.

Nile and Tropical Africa.

Synopsis of the Species.

I. Dorsal $1\frac{1}{2}$ to 2 times as distant from root of caudal as from end of snout; band of præmaxillary teeth curved, 6 times as long as broad; length of head 4 to $4\frac{1}{2}$ times in total length; caudal deeply forked, longest rays at least 3 times as long as median; base of adipose fin not more than $\frac{1}{3}$ its distance from rayed dorsal.

Occipital process not reaching interneural shield; maxillary barbel a little longer than head; anal with 10 branched rays . 1. *C. sianenna*, Blgr., p. 317.

Occipital process in contact with interneural shield; maxillary barbel $\frac{3}{5}$ length of head; anal with 8 branched rays . . . . . 2. *C. sharpii*, Blgr., p. 318.

II. Dorsal $1\frac{1}{3}$ to $1\frac{1}{2}$ times as distant from root of caudal as from end of snout; band of præmaxillary teeth straight or feebly curved, $2\frac{1}{2}$ to 4 times as long as broad; length of head 3 to $3\frac{3}{4}$ times in total length; maxillary barbel not longer than head.

A. Base of adipose fin shorter than that of rayed dorsal, from which it is separated by a space equal to 2 to 4 times its length; caudal deeply forked, longest rays at least 3 times as long as median; 12–20 gill-rakers on lower part of anterior arch.

1. Head $1\frac{2}{3}$ times as long as broad; snout pointed, as long as broad; width of mouth $3\frac{1}{2}$ times in length of head; anal with 9 branched rays. . . . . 3. *C. acutirostris*, Gthr., p. 319.

2. Head $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad.

Snout rounded, broader than long; width of mouth $2\frac{1}{2}$ to 3 times in length of head;

anal with 9–11 branched rays; second or first and second soft dorsal rays longest, not longer than head . . . . . 4. *C. furcatus*, Gthr., p. 320.

Snout obtusely pointed, not much broader than long; width of mouth $2\frac{1}{2}$ to 4 times in length of head; anal with 7–9 branched rays; second (rarely first) soft dorsal ray longest, usually at least as long as head . 5. *C. nigrodigitatus*, Lacep., [p. 321.

Snout rounded, broader than long; width of mouth 2 to $2\frac{2}{3}$ times in length of head; anal with 7–8 branched rays; first or first and second soft dorsal rays longest, usually shorter than head . . . . . 6. *C. walkeri*, Gthr., p. 324.

B. Base of adipose fin as long as or longer than that of rayed dorsal, from which it is separated by a space equal to $1\frac{1}{2}$ times its length; anal with 6–8 branched rays; first soft dorsal ray longest; 10–12 gill-rakers on lower part of anterior arch.

First soft dorsal ray more or less produced; longest rays of caudal $2\frac{1}{2}$ to 3 times length of median . . . . . 7. *C. auratus*, Geoffr., p. 325.

First soft dorsal ray not produced; longest rays of caudal twice length of median . . . 8. *C. rueppelli*, Blgr., p. 327.

III. Dorsal $1\frac{1}{5}$ to $1\frac{2}{5}$ times as distant from root of caudal as from end of snout; band of præmaxillary teeth feebly curved, 4 to 6 times as long as broad; length of head $3\frac{1}{2}$ to $3\frac{3}{4}$ times in total length; maxillary barbel longer than head; nasal barbel not half diameter of eye; width of mouth 2 to 3 times in length of head; 17–23 gill-rakers on lower part of anterior arch; anal with 8–9 branched rays; longest rays of caudal 3 to $3\frac{1}{2}$ times length of median.

Maxillary barbel a little longer than head . . 9. *C. brevibarbis*, Blgr., p. 329.

Maxillary barbel at least 3 times length of head . . . . . 10. *C. longibarbis*, Blgr., p. 330.

IV. Dorsal not more than $1\frac{1}{3}$ times as distant from root of caudal as from end of snout; band of præmaxillary teeth curved, 4 to 8 times as long as broad; length of head 3 to $3\frac{1}{2}$ times in total length; maxillary barbel not or but slightly longer than head; nasal barbel $\frac{2}{3}$ to 2 diameters of eye; width of mouth $1\frac{1}{2}$ to 2 times in length of head.

A. Base of adipose fin nearly as long as its distance from the rayed dorsal; anal with 7–9 branched rays.

Head $1\frac{1}{2}$ times as long as broad; first soft dorsal ray longest . . . . . 11. *C. duttoni*, Blgr., p. 331.

Head not or but little longer than broad; second and third soft dorsal rays longest . . . 12. *C. wayenaari*, Blgr., p. 331.

B. Base of adipose fin $1\frac{3}{4}$ to 3 times in its distance from rayed dorsal.

1. Head $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as broad.

a. Width of mouth $1\frac{1}{2}$ to $1\frac{2}{3}$ times in length of head; 10–13 gill-rakers on lower part of anterior arch.

Caudal deeply notched; anal with 8–10 branched rays; head rugose above . . . . . 13. *C. cranchii*, Leach, p. 332.

Caudal deeply notched; anal with 7 branched rays; head rugose above . . . . . 14. *C. punctatus*, Blgr., p. 334.

Caudal feebly notched; anal with 7 branched rays; head nearly smooth above . . . 15. *C. delhezi*, Blgr., p. 335.

b. Width of mouth twice in length of head; 16 gill-rakers on lower part of anterior arch; anal with 7 branched rays . . . . . 16. *C. mabusi*, Blgr., p. 336.

2. Head not more than $1\frac{1}{5}$ times as long as broad.

Maxillary barbel at least as long as head; anal with 6–8 branched rays; head rugose above; 9–10 gill-rakers on lower part of anterior arch . . . . . 17. *C. ornatus*, Blgr., p. 337.

Maxillary barbel $\frac{1}{2}$ to $\frac{3}{4}$ length of head; anal with 8–10 branched rays; head rugose above; 12–20 gill-rakers on lower part of anterior arch . . . . . 18. *C. myriodon*, Blgr., p. 339.

Maxillary barbel $\frac{1}{3}$ to $\frac{1}{2}$ length of head; anal with 8–9 branched rays; head smooth above; 13–18 gill-rakers on lower part of anterior arch . . . . . 19. *C. brachynema*, Blgr., p. 340.

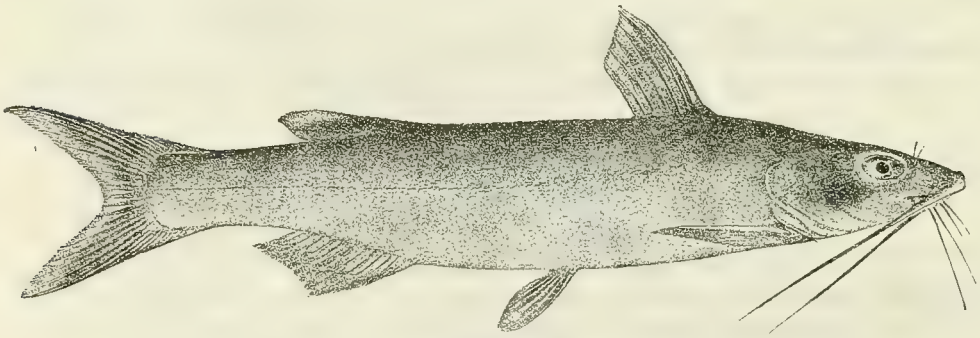
1. CHRYSICHTHYS SIANENNA.

Bouleng. Trans. Zool. Soc. xvii. 1906, p. 551, pl. xxxii. fig. 2.

Depth of body $5\frac{1}{2}$ to 6 times in total length, length of head $4\frac{1}{2}$ times. Head moderately depressed, $1\frac{2}{5}$ to $1\frac{1}{2}$ times as long as broad, smooth above; occipital process narrow, narrowly separated from the small interneural shield; snout rounded, projecting a little beyond lower jaw, $\frac{1}{3}$ length of head; eye 4 to $4\frac{1}{2}$ times in length of head, 1 to $1\frac{1}{3}$ times in interorbital width; width of mouth about $\frac{1}{2}$ length of head; præmaxillary band of teeth curved, 6 times as long as broad; vomero-pterygoid teeth forming a long and narrow crescentic band; nasal barbel $\frac{1}{3}$ diameter of eye; maxillary barbel $1\frac{1}{5}$ to $1\frac{1}{3}$ times length of head; outer mandibular barbel nearly twice as long as inner and $\frac{1}{2}$ length of head. Gill-rakers long and closely set, 18 to 20 on lower part of anterior arch. Dorsal I 6, rather small, nearly twice as distant from

root of caudal as from end of snout; spine rather feeble, serrated behind, $\frac{1}{2}$ length of head; first soft ray longest, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Adipose dorsal 2 to 3 times as long as deep, its base equal to or a little longer than that of the rayed dorsal, from which it is separated by a space equal to 3 or 4 times its base. Anal 14, 10 rays branched.

Fig. 250.



Chrysichthys sianenna.
Type (Tr. Z. S. 1906). $\frac{3}{5}$.

Pectoral spine about $\frac{3}{5}$ length of head, feebly serrated on outer side, more strongly on inner side. Caudal deeply forked, with pointed lobes, longest rays 3 to $3\frac{1}{2}$ times length of median. Caudal peduncle twice as long as deep. Olive above, silvery white beneath.

Total length 220 millim.

Lake Tanganyika.

1–2. Types.	Niamkolo.	Dr. W. A. Cunnington (C.).
3. Type.	Mbete.	,,

2. CHRYSICHTHYS SHARPII.

Boulenger, Ann. & Mag. N. H. (7) vii. 1901, p. 81, and Poiss. Bass. Congo, p. 281 (1901).

Depth of body $5\frac{1}{2}$ times in total length, length of head 4 times. Head much depressed, $1\frac{1}{4}$ times as long as broad, feebly granulate above; occipital process a little longer than broad, extending to the small interneural shield; snout broadly rounded, projecting a little beyond lower jaw, $\frac{1}{3}$ length of head; eye oval, 6 times in length of head and twice in interorbital width; width of mouth twice in length of head; præmaxillary band of teeth curved, 6 times as long as broad; vomero-pterygoid band narrow, crescentic, scarcely interrupted in the middle; nasal barbel $\frac{2}{3}$ diameter of eye; maxillary barbel $\frac{3}{5}$ length of

head; outer mandibular barbel $1\frac{1}{2}$ times as long as inner and $\frac{2}{5}$ length of head. Dorsal I 5, $1\frac{1}{2}$ times as distant from root of caudal as from end of snout; spine striated, not serrated, $\frac{1}{2}$ length of head; first soft ray longest, $\frac{2}{3}$ length of head. Adipose dorsal not longer than deep, its base $\frac{1}{2}$ that of rayed dorsal, from which it is separated by a space equal to 7 times its base. Anal 13, 8 rays branched. Pectoral spine $\frac{1}{2}$ length of head, strongly serrated on inner side. Caudal deeply forked, with pointed lobes, longest rays about 3 times length of median. Caudal peduncle not quite twice as long as deep. Brown above, whitish beneath.

Total length 370 millim.

Lake Mweru.

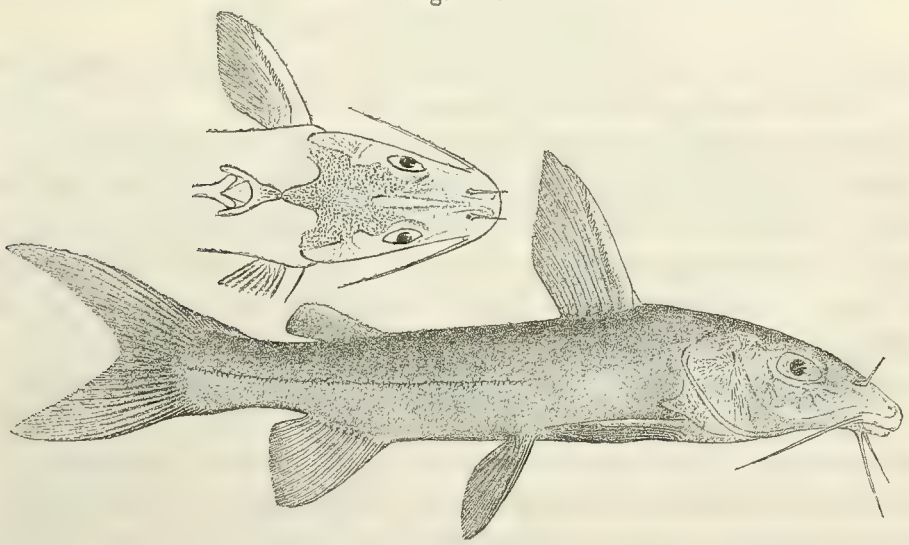
1. Skin, type. L. Mweru. Sir A. Sharpe (P.).

3. CHRYSICHTHYS ACUTIROSTRIS.

Günth. Cat. Fish. v. p. 431 (1864).

Depth of body $5\frac{1}{2}$ times in total length, length of head $3\frac{1}{3}$ times. Head but slightly broader than deep, $1\frac{2}{3}$ times as long as broad, its

Fig. 251.



Chrysichthys acutirostris.
Type. $\frac{1}{2}$.

upper surface rugose; occipital process narrow, extending to the small interneural shield; snout obtusely acuminate, not broader than long, nearly twice as long as eye, which is $4\frac{2}{3}$ times in length of head and

equals interorbital width; mouth inferior, its width $3\frac{1}{2}$ times in length of head; præmaxillary band of teeth straight, 3 times as long as broad; two small, widely separated groups of teeth on the vomer; nasal barbel $\frac{2}{3}$ diameter of eye; maxillary barbel $\frac{3}{5}$ length of head; outer mandibular barbel $\frac{2}{5}$ length of head, inner $\frac{1}{4}$. Gill-rakers moderate, 14 on lower part of anterior arch. Dorsal I 6, $1\frac{1}{3}$ times as distant from root of caudal as from end of snout; spine about $\frac{1}{2}$ length of head, rugose in front, strongly serrated behind; first soft ray longest, $\frac{3}{4}$ length of head. Base of adipose dorsal a little shorter than that of rayed dorsal, from which it is separated by a space equal to $2\frac{1}{2}$ times its base. Anal 14, 9 rays branched. Pectoral about $\frac{2}{3}$ length of head; spine feebly granulate on outer border, strongly serrated on inner. Caudal deeply forked, with pointed lobes, upper the longer, more than 3 times as long as middle rays. Caudal peduncle twice as long as deep. Brown above, silvery white below.

Total length 205 millim.

Golungo Alto, Angola.

1. Type. Golungo Alto. Dr. Welwitsch (P.).

4. CHRYSICHTHYS FURCATUS.

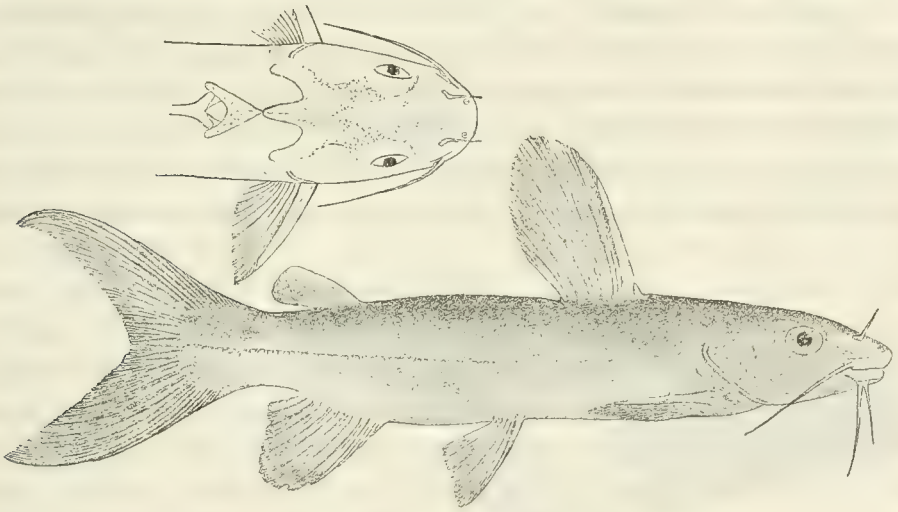
Günth. Cat. Fish. v. p. 430 (1864); Steind. Sitzb. Ak. Wien, lxi. i. 1870, p. 992, pl. viii.; Bouleng. Poiss. Bass. Congo, p. 280 (1901).

Chrysichthys camaronensis, Günth. Proc. Zool. Soc. 1899, p. 729, pl. xliv.

Depth of body $4\frac{2}{3}$ to 6 times in total length, length of head $3\frac{1}{3}$ to $3\frac{3}{4}$ times. Head moderately depressed, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, smooth or feebly rugose above; occipital process narrow, extending to the small interneural shield; snout rounded, broader than long, once (young) to 3 times as long as eye, which is 4 (young) to $6\frac{1}{2}$ times in length of head and once to twice in interorbital width; mouth inferior, its width $2\frac{1}{2}$ to 3 times in length of head; præmaxillary band of teeth nearly straight, 3 to 4 times as long as broad; vomero-pterygoid teeth forming a long band interrupted in the middle, its width equal to or a little less than that of the præmaxillary band in the adult; nasal barbel $\frac{2}{3}$ to once diameter of eye; maxillary barbel $\frac{1}{2}$ to $\frac{3}{4}$ length of head; outer mandibular barbel $1\frac{1}{2}$ times as long as inner, $\frac{2}{5}$ to $\frac{1}{2}$ length of head. Gill-rakers rather long, 15 to 20 on lower part of anterior arch. Dorsal I 6, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as distant from root of caudal as from end of snout; spine $\frac{3}{5}$ to $\frac{4}{5}$ length of head, smooth in front, very feebly serrated

behind; second or first and second soft rays longest, nearly as long as head or shorter. Base of adipose fin $\frac{1}{2}$ to $\frac{3}{4}$ that of dorsal, from which it is separated by a space equal to 2 to 4 times its base. Anal 14–16, 9–11 rays branched. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head; spine strongly serrated on inner border. Caudal deeply forked, with pointed lobes,

Fig. 252.



Chrysichthys furcatus.
Type. $\frac{1}{3}$.

longest rays 3 to 4 times as long as middle rays. Caudal peduncle $1\frac{1}{2}$ to 2 times as long as deep. Dark grey above, white beneath.

Total length 470 millim.

West African Rivers, from the Senegal to the Congo.

1–2. Ad.	Gambia.	J. S. Budgett, Esq. (P.).
3–4. Ad.	Ogun R. at Aro, S. Nigeria.	Major G. E. Bruce (P.).
5. Ad., type.	Niger.	Mr. J. T. Dalton (C.).
6. Ad., type of *C. camaronensis*.	Cameroon.	Mr. C. L. Salmin (C.).
7. Hgr.	Banana, Congo.	M. P. Delhez (C.).
8. Yg.	Boma, „	„
9. Yg.	Landana, „	Dr. Jackson (C.); Hon. W. Rothschild (P.).

5. CHRYSICHTHYS NIGRODIGITATUS.

Pimelodus nigrodigitatus, Lacep. Hist. Poiss. v. pp. 102 & 108 (1803).
Bagrus maurus, Cuv. & Val. Hist. Poiss. xiv. p. 431 (1839).

Arius acutivelis, Cuv. & Val. Hist. Poiss. xv. p. 85 (1840) *.

Melanodactylus nigrodigitatus, Bleek. Nederl. Tijdschr. Dierk. i. 1863, p. 95.

Chrysichthys nigrodigitatus, Günth. Cat. Fish. v. pp. 73 & 430 (1864); Steind. Sitzb. Ak. Wien, lx. i. 1870, p. 989, pl. vii., and Notes Leyd. Mus. xvi. 1894, p. 59 ; Günth. Proc. Zool. Soc. 1899, p. 727.

Chrysichthys macrops, part., Günth. Ann. & Mag. N. H. (3) xx. 1867, p. 112.

Chrysichthys buttikoferi, Steind. Notes Leyd. Mus. xvi. 1894, p. 60, pl. iii. fig. 1; Günth. Ann. & Mag. N. H. (6) xvii. 1896, p. 276, and Proc. Zool. Soc. 1899, p. 721, pls. xli. & xlii. fig. A.

Chrysichthys ogowensis, Günth. Proc. Zool. Soc. 1899, p. 723.

Chrysichthys coriscanus, Günth. t. c. p. 724.

Chrysichthys lagoensis, Günth. t. c. p. 725, and 1902, ii. p. 335, fig.

Depth of body 4 to 5 times in total length, length of head $3\frac{1}{6}$ to $3\frac{3}{4}$ times. Head feebly depressed, $1\frac{1}{3}$ (young) to $1\frac{1}{2}$ times as long as broad,

Fig. 253.

Chrysichthys nigrodigitatus.
After Steindachner (Sitzb. Ak. Wien, 1870). $\frac{1}{3}$.

its upper surface more or less rugose, the rugosities usually showing under the thin skin; occipital process narrow, extending to the small

* I have examined the types of *A. acutivelis*=*melanodactylus* (160 millim., very badly preserved) and *B. maurus* (195 millim.) in the Paris Museum. In both the dentition of the palate is reduced to two small groups of vomerine teeth. Larger specimens (220–340 millim.) from the Senegal (Heudelot) and Goree (Rang) have a small group of teeth on each entopterygoid, widely separated from the vomerine.

interneural shield; snout obtusely pointed, not much broader than long; eye large, transversely oval, its diameter 1 (young) to $2\frac{1}{2}$ times in length of snout, 3 to 6 times in length of head, not more than $1\frac{2}{3}$ times in interorbital width; mouth inferior, its width $2\frac{1}{2}$ to 4 times in length of head; præmaxillary band of teeth straight, $\frac{1}{2}$ to $3\frac{1}{2}$ times as long as broad; vomero-pterygoid teeth forming a narrow band interrupted in the middle, sometimes reduced to the vomerine part; nasal barbel $\frac{1}{4}$ to $\frac{1}{2}$ diameter of eye; maxillary barbel $\frac{1}{2}$ to $\frac{5}{6}$ length of head; outer mandibular barbel a little longer than inner, $\frac{3}{5}$ to $\frac{3}{4}$ the length of the maxillary barbel. Gill-rakers rather long, 12–17 on lower part of anterior arch. Dorsal I 6, $1\frac{1}{5}$ to $1\frac{1}{3}$ times as distant from root of caudal as from end of snout; spine $\frac{1}{2}$ to $\frac{4}{5}$ length of head, smooth or granulate in front, rather feebly serrated behind; second soft ray longest, $\frac{3}{4}$ to $1\frac{1}{5}$ times length of head. Base of adipose fin shorter than that of dorsal, from which it is separated by a space equal to 2 to 4 times its base. Anal 12–14, 8 or 9 (rarely 7) rays branched. Pectoral $\frac{2}{3}$ to $\frac{4}{5}$ length of head; spine smooth or feebly granulate on outer border, strongly serrated on inner. Caudal deeply forked, upper lobe longest and often produced into a filament, at least 3 times as long as middle rays. Caudal peduncle $1\frac{1}{3}$ to $1\frac{2}{3}$ times as long as deep. Dark grey or brown above, silvery white beneath; a more or less indistinct dark transverse band behind the head and another in front of the dorsal fin.

Total length 370 millim.

West Africa, from the Senegal to the Ogowe. — Type in Paris Museum.

1–2. Ad.	St. Louis, Senegal.	M. P. Delhez (C.).
3. Hgr.	Kaëdi, „	„
4–10. Ad., hgr., & yg.	Gambia.	J. S. Budgett, Esq. (P.).
11, 12–15. Ad. & yg.	R. Prah, Gold Coast.	R. B. N. Walker, Esq. (P.).
16–24. Yg.	R. Offin, „	„
25. Hgr.	Nyankoma, „	„
26. Ad., type of *C. lagoensis*.	Lagos.	H. T. Ussher, Esq. (C.).
27, 28. Ad. & yg.	Niger.	Mr. J. T. Dalton (C.).
29. Ad.	Lokoja, Upp. Niger.	J. S. Budgett, Esq. (P.).
30. Yg.	Assay, Low. Niger.	Dr. W. J. Ansorge (C.).
31–32. Yg.	Sapelle, „	„
33. Yg.	Benue R., North of Ibi.	H. L. Norton Traill, Esq. (C.).
34. Hgr.	Enyong R., Old Calabar.	Major W. A. C. Cockburn (P.).
35. Ad.	Kribi R., Cameroon.	G. L. Bates, Esq. (C.).

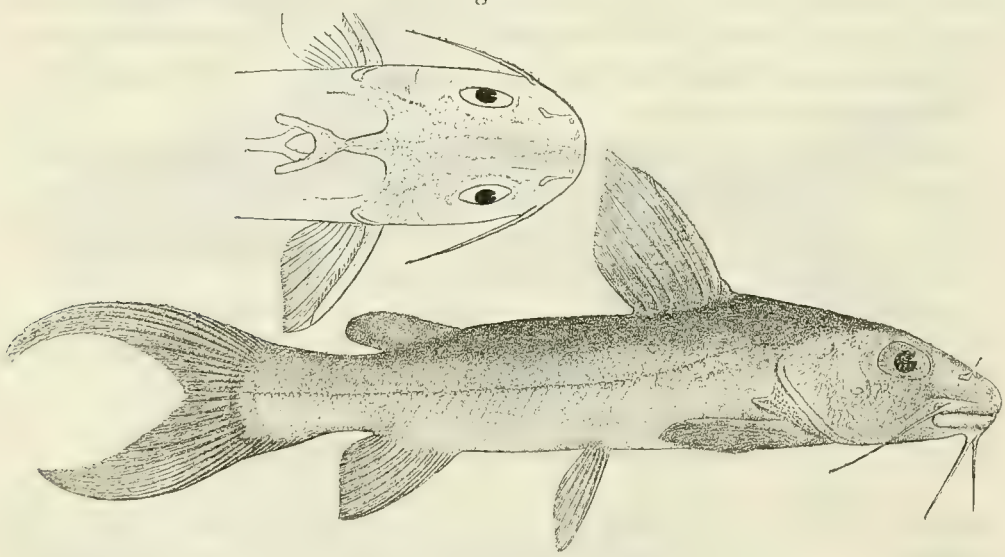
36–37. Yg., types of *C. coriscanus.*	Corisco Id.	Miss Kingsley (C.).
38. Yg.	Benito R.	G. L. Bates, Esq. (C.).
39. Skel.	,,	,,
40. Hgr., type of *C. ogowensis.*	Kondo Kondo, Ogowe.	Miss Kingsley (C.).
41. Hgr.	Lambarene, Ogowe.	Dr. W. J. Ansorge (C.).
42. Yg.	Ngomo, Ogowe.	Rev. E. Haug (C.); Paris Museum (E.).

6. CHRYSICHTHYS WALKERI.

Chrysichthys macrops, part., Günth. Ann. & Mag. N. H. (3) xx. 1867, p. 112.
Chrysichthys auratus, part., Günth. Proc. Zool. Soc. 1899, p. 718.
Chrysichthys walkeri, Günth. t. c. p. 720, fig.
Chrysichthys persimilis, Günth. t. c. p. 727, pl. xliii.
Chrysichthys kingsleyæ, Günth. t. c. p. 728, pl. xlv. fig. A.

Depth of body 4 to 5 times in total length, length of head 3 to $3\frac{1}{2}$ times. Head moderately depressed, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, more or less rugose above; occipital process narrow, in contact with

Fig. 254.



Chrysichthys walkeri.
Type of *C. persimilis.* $\frac{4}{9}$.

interneural shield; snout rounded, much broader than long, once (young) to twice diameter of eye, which is $3\frac{1}{2}$ to 5 times in length of head and at least equals interorbital width; width of mouth 2 to $2\frac{2}{3}$ times in length

of head; præmaxillary band of teeth straight, 3 to 4 times as long as broad; vomero-pterygoid teeth forming a narrow band interrupted in the middle, sometimes restricted to the vomerine part; nasal barbel $\frac{1}{3}$ to $\frac{3}{4}$ diameter of eye; maxillary barbel $\frac{3}{5}$ (adult) to once (young) length of head; outer mandibular barbel about once and $\frac{1}{3}$ as long as inner and $\frac{2}{5}$ to $\frac{3}{5}$ length of head. Gill-rakers moderate, 12 or 13 on lower part of anterior arch. Dorsal I 6, $1\frac{1}{4}$ to $1\frac{1}{3}$ times as distant from root of caudal as from end of snout; spine feebly serrated behind, $\frac{1}{2}$ to $\frac{2}{3}$ length of head; first or first and second soft rays longest, $\frac{3}{4}$ to once length of head. Adipose dorsal not much longer than deep, its base $\frac{1}{2}$ to $\frac{3}{4}$ that of rayed dorsal, from which it is separated by a space equal to 2 to 3 times its base. Anal 11–13, 7 or 8 rays branched. Pectoral about $\frac{2}{3}$ length of head, spine smooth or very feebly serrated on outer side, strongly serrated on inner side. Caudal deeply forked, with long, acutely pointed lobes, the upper the longer and 3 to 4 times as long as middle rays. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Brown above, silvery white beneath.

Total length 240 millim.

West African Rivers, from the Gold Coast to the Ogowe.

1–3. Yg., types.	R. Prah, Gold Coast.	R. B. N. Walker, Esq. (C.).
4. Yg.	,, ,,	,,
5–7, 8. Yg.	R. Offin, ,,	,,
9. Ad., type of *C. persimilis.*	Gaboon.	,,
10–12. Hgr. & yg.	Sette Cama, Gaboon.	,,
13. Hgr., type of *C. kingsleyæ.*	Ogowe.	Miss Kingsley (C.).

7. CHRYSICHTHYS AURATUS.

Pimelodus auratus, Geoffr. Descr. Egypte, Poiss. pl. xiv. figs. 3 & 4 (1809).

Porcus auratus, I. Geoffr. op. cit. p. 302 (1827).

Abou Crata, Rifaud, Voy. Egypte, pl. cxcv. (1835).

Bagrus auratus, Rüpp. N. Nachtr. Beschr. Fische Nil, p. 25 (1835); Cuv. & Val. Hist. Poiss. xiv. p. 427 (1839).

Bagrus capito, Cuv. & Val. t. c. p. 430.

Chrysichthys auratus, Bleek. Acta Soc. Sc. Ind.-Neerl. iv. 1858, p. 65; Boulenger, Fish. Nile, p. 333, pl. lx. fig. 1 (1907).

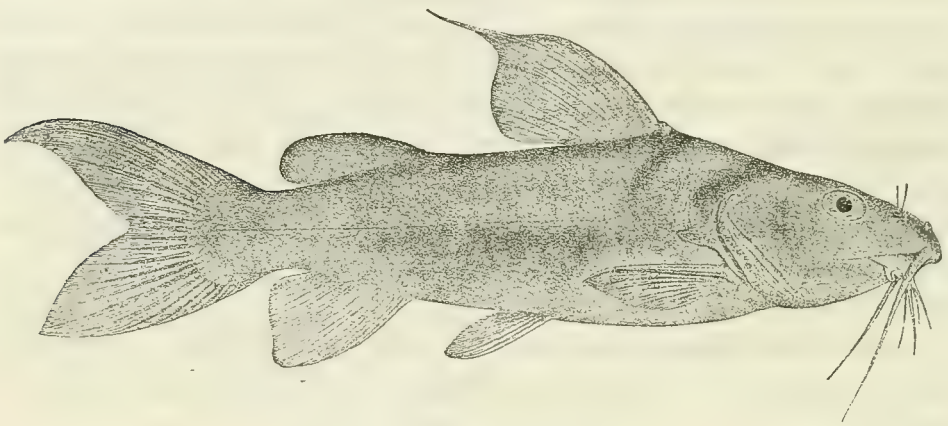
Chrysichthys capito, Bleek. l. c.

Chrysichthys macrops, Günth. Cat. Fish. v. p. 71 (1864), Petherick's Trav. ii. p. 230 (1869), and Proc. Zool. Soc. 1899, p. 719, fig. 2.

Depth of body $3\frac{2}{3}$ to $5\frac{1}{3}$ times in total length, length of head $3\frac{1}{3}$ to

$3\frac{1}{2}$ times. Head moderately depressed, $1\frac{1}{5}$ to $1\frac{1}{3}$ times as long as broad, its upper surface more or less rugose, the rugosities usually showing under the thin skin; occipital process narrow, extending to the small interneural shield; snout broadly rounded; eye large, transversely oval, its diameter once (young) to once and $\frac{3}{4}$ in length of snout, 3 to $4\frac{1}{2}$ times in length of head, $1\frac{1}{4}$ to 2 times in interocular width; mouth inferior, its width equal to or a little greater than interocular width; præmaxillary band of teeth straight, $2\frac{1}{2}$ to $3\frac{1}{2}$ times as long as broad; vomero-pterygoid

Fig. 255.



Chrysichthys auratus.
Lower Nile (F. N.). $\frac{1}{2}$.

teeth forming a narrow band narrowly interrupted in the middle, sometimes reduced to the vomerine part. Nasal barbel $\frac{1}{5}$ to $\frac{3}{5}$ diameter of eye; maxillary barbel $\frac{3}{5}$ to nearly once length of head; mandibular barbels shorter, inner about $\frac{2}{3}$ or $\frac{3}{4}$ length of outer. Gill-rakers rather short, 10–12 on lower part of anterior arch. Dorsal I 6, $1\frac{1}{4}$ to $1\frac{1}{2}$ times as distant from root of caudal as from end of snout; spine strong, feebly serrated behind, $\frac{3}{5}$ to $\frac{2}{3}$ length of head; first soft ray usually more or less produced, sometimes much longer than head. Adipose fin as long as or longer than base of rayed dorsal, usually shorter than its distance from the latter. Anal 11–13, 6 or 7 (rarely 8) branched. Pectoral shorter than head, not reaching ventral, with a strong spine, with strong serræ on the inner side. Caudal deeply forked, the lobes acutely pointed, upper often produced into a short filament. Caudal peduncle $1\frac{1}{3}$ to $1\frac{2}{3}$ times as long as deep. Buffish grey above, silvery white beneath; an ill-defined dark transverse band behind the head and another in front of the dorsal fin.

Total length 220 millim.

Lower Nile to Bahr-el-Gebel; Chad Basin. — Type in Paris Museum.

1. Ad., type of *C. macrops.*	Lower Nile.	Dr. Rüppell (C.).
2–3. Ad.	Near Damietta, in fresh water.	L. Loat, Esq. (C.).
4–9. Hgr.	Near Ghet-el-Nassara, L. Menzaleh, in fresh water.	,,
10–19. Ad. & hgr.	Nile near Samannud.	,,
20. Skel.	,, ,,	,,
21–22. Yg.	Damietta Nile, upstream side of barrage.	,,
23–25. Ad.	Cairo.	,,
26, 27–30. Ad. & yg.	Near Cairo.	Capt. S. Flower (P.).
31–38. Ad. & hgr.	Beni Souef.	L. Loat, Esq. (C.).
39–40. Ad.	Lahun, Bahr Yusuf, Fayum.	,,
41–42. Hgr.	Bahr Selah, Fayum.	,,
43–47. Yg.	Near Luxor.	,,
48. Yg.	Between Luxor and Assuan.	,,
49–50. Hgr.	Wady Halfa.	,,
51–52. Yg.	Kosheh, Nubia.	,,
53–57. Ad. & hgr., types of *C. auratus.*	Khartum.	J. Petherick, Esq. (C.).
58. Skel.	Khartum.	,,
59. Hgr.	Nur-el-Daim, White Nile.	L. Loat, Esq. (C.).
60. Ad.	Between Khartum and Sobat.	Mr. P. C. Zaphiro (C.); W. N. MacMillan, Esq. (P.).
61, 62–65. Yg.	Gondokoro.	L. Loat, Esq. (C.).
66. Ad.	Fort Lamy, Shari R.	Capt. G. B. Gosling (P.).

8. CHRYSICHTHYS RUEPPELLI.

Chrysichthys auratus (non Geoffr.), Günth. Cat. Fish. v. p. 71 (1864), and Petherick's Trav. ii. p. 229 (1869).

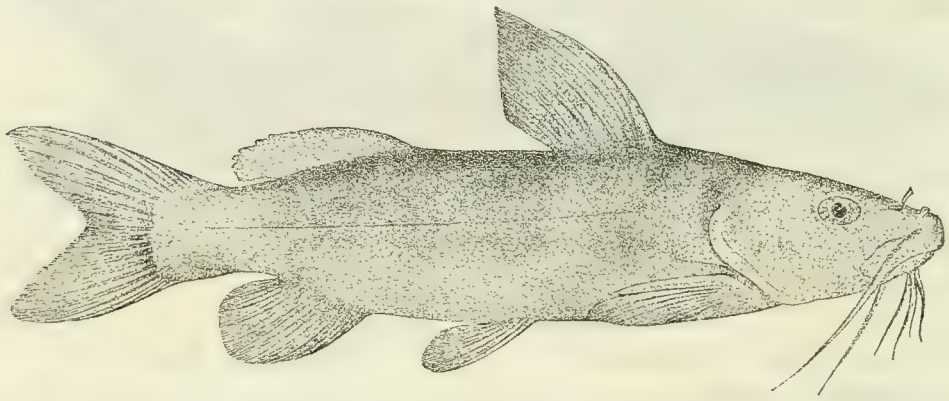
Chrysichthys auratus, part., Günth. Proc. Zool. Soc. 1899, p. 718, fig. 1.

Chrysichthys rueppelli, Bouleng. Fish. Nile, p. 337, pl. lx. fig. 2 (1907).

Depth of body 4 to $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{4}$ to $3\frac{1}{3}$ times. Head moderately depressed, $1\frac{1}{6}$ to $1\frac{1}{4}$ times as long as broad, its upper surface smooth, covered with thick skin; occipital process narrow, extending to the small interneural shield; snout broadly

rounded; eye 4 (young) to $5\frac{1}{4}$ times in length of head, $1\frac{3}{4}$ to $2\frac{1}{3}$ times in interocular width; mouth inferior, its width $1\frac{4}{5}$ to 2 times in length of head; præmaxillary band of teeth straight, $2\frac{1}{2}$ to 3 times as long as broad; vomero-pterygoid teeth forming a narrow band narrowly interrupted in the middle; nasal barbel $\frac{1}{3}$ to $\frac{1}{2}$ diameter of eye; maxillary barbel $\frac{2}{3}$ length of head; mandibular barbels shorter, outer $1\frac{1}{3}$ to $1\frac{1}{2}$ times inner. Gill-rakers short, 10–12 on lower part of anterior arch. Dorsal I 6, $1\frac{1}{6}$ to $1\frac{1}{4}$ times as distant from root of caudal as from end of snout; spine strong, feebly serrated behind, about $\frac{1}{2}$ length of head; first soft ray longest, not produced, shorter than head; adipose fin longer than base of rayed dorsal, as long as or slightly shorter than its distance from the latter. Anal 12, 7 rays branched. Pectoral

Fig. 256.



Chrysichthys rueppelli.
Type (F. N.). $\frac{1}{2}$.

much shorter than head, spine strongly serrated on inner side. Caudal with rounded or obtusely pointed lobes, longest rays about twice length of median. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Pale brown above, white beneath; an ill-defined dark transverse band behind the head and another in front of the dorsal fin.

Total length 225 millim.

Lower Nile.

1. Type.	Lower Nile.	Dr. Rüppell (C.).
2–3. Types.	Near Ghet-el-Nassara, L. Menzaleh, in fresh water.	L. Loat, Esq. (C.).
4. Skel.	Lower Nile.	

9. CHRYSICHTHYS BREVIBARBIS.

Chrysobagrus brevibarbis, Bouleng. Ann. Mus. Congo, Zool. i. p. 40, pl. xxi. fig. 1 (1899).

Chrysichthys brevibarbis, Bouleng. Poiss. Bass. Congo, p. 290 (1901).

Depth of body $4\frac{1}{3}$ to 5 times in total length, length of head $3\frac{3}{4}$ times. Head much depressed, $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, feebly striated and granulated on the occiput; occipital process in contact with interneural shield; snout truncate, projecting slightly beyond lower jaw, its length nearly $\frac{1}{3}$ of head; eye 3 (young) to 5 times in length of head, $\frac{1}{2}$ to $\frac{2}{3}$ interorbital width; width of mouth 3 times in length of head; præmaxillary band of teeth feebly curved, 4 to 6 times as long as broad; two short bands of vomerine teeth, separated by a narrow interspace;

Fig. 257.

Chrysichthys brevibarbis.
Type (A. M. C.). $\frac{1}{4}$.

nasal barbel not $\frac{1}{2}$ diameter of eye; maxillary barbel slightly longer than head; outer mandibular barbel about once and $\frac{1}{2}$ as long as inner. Gill-rakers moderate, 17 on lower part of anterior arch. Dorsal I 6, $1\frac{1}{5}$ to $1\frac{2}{5}$ times as distant from root of caudal as from end of snout; spine a little shorter than head, smooth or feebly serrated behind; first soft ray longest, nearly as long as head. Adipose fin twice as long as deep, its base equal to that of rayed dorsal, from which it is separated by a space equal to $1\frac{1}{2}$ to 2 times its length. Anal 12, 9 rays branched. Pectoral spine $\frac{2}{3}$ length of head, strongly serrated on inner side. Caudal deeply forked; lobes long and pointed, outer rays 3 times as long as median. Caudal peduncle about twice as long as deep. Uniform brownish.

Total length 440 millim.

Congo.—Type in Congo Museum, Tervueren.

1. Hgr.	Monsembe, Upp. Congo.	Rev. J. H. Weeks (P.).

10. CHRYSICHTHYS LONGIBARBIS.

Chrysobagrus longibarbis, Bouleng. Ann. Mus. Congo, Zool. i. p. 41, pl. xxi. fig. 2 (1899).

Chrysichthys longibarbis, Bouleng. Poiss. Bass. Congo, p. 291 (1901).

Depth of body $4\frac{1}{2}$ to 5 times in total length, length of head $3\frac{1}{2}$ to $3\frac{3}{4}$ times. Head much depressed, $1\frac{1}{3}$ times as long as broad, feebly rugose above; occipital process in contact with interneural shield; snout rounded, its length about $\frac{1}{3}$ of head; eye 3 (young) to 5 times in length of head, 1 to $1\frac{1}{2}$ times in interorbital width; mouth inferior, its width 2 to $2\frac{1}{2}$ times in length of head; præmaxillary band of teeth feebly curved, 4 to $5\frac{1}{2}$ times as long as broad; two short bands of vomerine teeth, separated by a narrow interspace; nasal barbel $\frac{1}{3}$ to $\frac{3}{4}$ diameter of eye; maxillary barbel 3 to $3\frac{1}{2}$ times as long as head; outer mandibular barbel a little longer than head, nearly twice as long as inner. Gill-rakers moderate, 20–23 on lower part of anterior arch. Dorsal I 6, $1\frac{1}{5}$ to $1\frac{1}{4}$ times as distant from root of caudal as from end of snout;

Fig. 258.

Chrysichthys longibarbis.
Type (A. M. C.). $\frac{1}{3}$.

spine shorter than head, feebly serrated behind; first soft ray longest, as long as or a little longer than head. Adipose fin as long as deep or a little longer than deep, its base less than that of the rayed dorsal and measuring about half its distance from the latter. Anal 12–13, 8 or 9 rays branched. Pectoral spine $\frac{3}{5}$ to $\frac{3}{4}$ length of head, strongly serrated on inner side. Caudal deeply forked; lobes long and pointed, outer

rays at least 3 times as long as median. Caudal peduncle $1\frac{1}{2}$ to $1\frac{3}{4}$ times as long as deep. Brown above, white beneath; a blackish spot behind the operculum.

Total length 390 millim.

Upper Congo.—Type in Congo Museum, Tervueren.

1. Hgr., type.	Leopoldville.	Capt. Wilverth (C.).
2. Hgr.	Dolo, Stanley Pool.	M. P. Delhez (C.).
3. Ad.	Monsembe, Upp. Congo.	Rev. J. H. Weeks (P.).
4. Yg.	Banzyville, Ubanghi.	Capt. Royaux (C.).

11. CHRYSICHTHYS DUTTONI.

Bouleng. Ann. & Mag. N. H. (7) xvi. 1905, p. 641.

Depth of body $4\frac{1}{3}$ times in total length, length of head $3\frac{2}{5}$ times. Head $1\frac{1}{2}$ times as long as broad, with granular rugosities above; snout broadly rounded, extending a little beyond lower jaw; eye 4 times in length of head, nearly equalling interorbital width; vomero-pterygoid teeth forming a long but very narrow band; nasal barbel $\frac{2}{3}$ diameter of eye; maxillary barbel a little longer than head, extending nearly to extremity of pectoral spine. Dorsal I 6; spine strong, serrated behind; first soft ray longest, as long as head; adipose fin as long as deep, its base a little greater than its distance from rayed dorsal. Anal 11, 7 rays branched. Pectoral spine $\frac{3}{5}$ length of head, strongly serrated on inner border. Caudal deeply notched, with rounded lobes. Caudal peduncle nearly $1\frac{1}{2}$ times as long as deep. Brown above, white beneath.

Total length 130 millim.

Kasai River (Congo).—Type in Congo Museum, Tervueren.

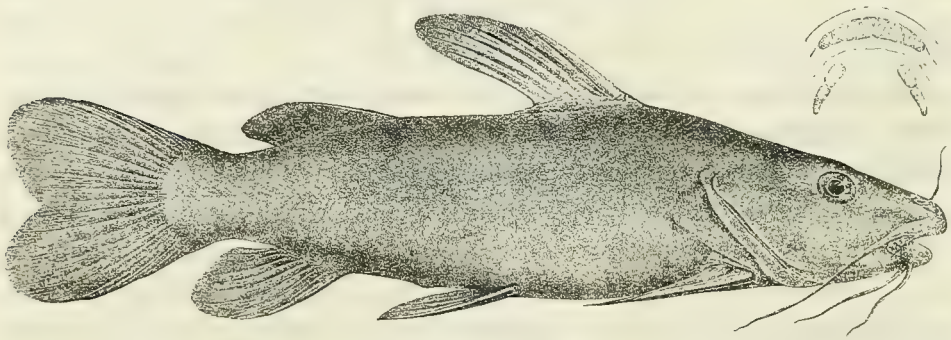
12. CHRYSICHTHYS WAGENAARI.

Bouleng. Ann. Mus. Congo, Zool. i. p. 39, pl. xx. fig. 1 (1899), and Poiss. Bass. Congo, p. 289 (1901).

Depth of body 4 to $4\frac{1}{3}$ times in total length, length of head 3 to $3\frac{1}{2}$ times. Head much depressed, as long as or a little longer than broad, covered with thick skin above; occipital process in contact with interneural shield; snout broadly rounded, projecting very slightly beyond lower jaw, $1\frac{1}{2}$ (young) to 3 times diameter of eye, which is 4 (young) to $8\frac{1}{2}$ times in length of head and $1\frac{1}{3}$ to 4 times in interocular width; width of mouth half or more than half length of head; præmaxillary band of teeth curved, 5 to $5\frac{1}{2}$ times as long as broad; vomero-

pterygoid teeth forming two rather broad bands separated by a more or less wide space in the middle; nasal barbel 1 to 2 diameters of eye; maxillary barbel $\frac{3}{4}$ length of head or nearly as long as head; outer mandibular barbel $1\frac{1}{2}$ times length of inner, $\frac{1}{2}$ or a little more than $\frac{1}{2}$ length of head. Gill-rakers moderate, 12–15 on lower part of anterior arch. Dorsal I 6, equally distant from end of snout and from root of caudal; spine $\frac{1}{2}$ to $\frac{2}{3}$ length of head, feebly serrated in front and behind; second and third soft rays longest, $\frac{2}{3}$ to once length of head. Adipose fin 2 to 3 times as long as deep, its base as long as or a little longer than

Fig. 259.



Chrysichthys wagenaari.
Type (A. M. C.). $\frac{1}{6}$.

that of the dorsal and equal to or a little less than its distance from the latter. Anal 11–12, 7–9 rays branched. Pectoral spine nearly as long as dorsal, feebly serrated on inner border in the adult, strongly in the young. Caudal moderately or rather feebly notched in the adult, with rounded lobes, the longest rays twice as long as the median in the young. Caudal peduncle $1\frac{1}{4}$ times as long as broad. Dark brown, lighter beneath.

Total length 700 millim.

Congo.—Type in Congo Museum, Tervueren.

1–2. Hgr.	Upper Congo.	Brussels University.
3. Ad.	Congo.	

13. CHRYSICHTHYS CRANCHII.

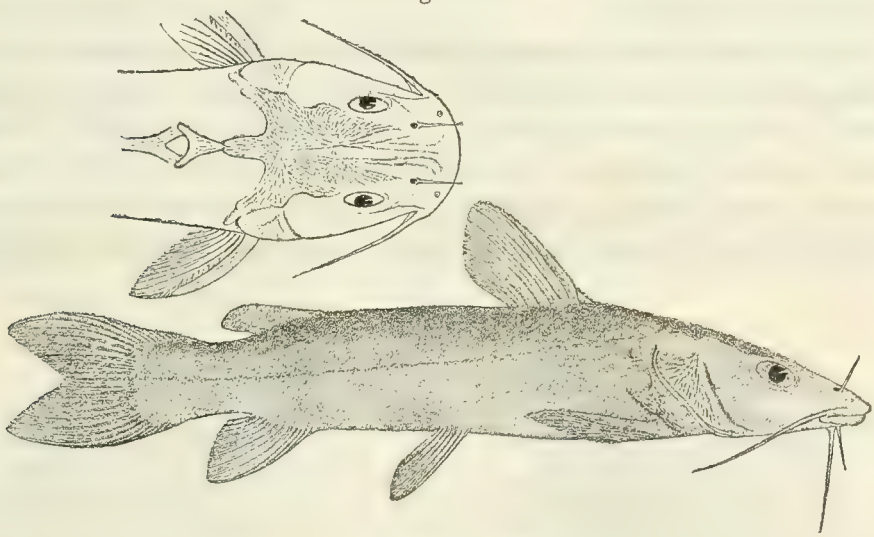
Pimelodus cranchii, Leach, in Tuckey, Exped. R. Zaire, p. 409 (1818); Griffith & Smith, Anim. Kingd. pl. xl. (1834).

Chrysichthys cranchii, Günth. Cat. Fish. v. p. 72 (1864); Schilthuis, Tijdschr. Nederl. Dierk. Ver. (2) iii. 1891, p. 84; Bouleng. Tr. Zool. Soc. xv. 1899, p. 95, and Poiss. Bass. Congo, p. 282 (1901).

Depth of body 4 to 5 times in total length, length of head 3 to $3\frac{1}{4}$

times. Head much depressed, $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, rugose and striated above; occipital process rather broad, in contact with interneural shield; snout broadly rounded, projecting very slightly beyond lower jaw, 2 to 3 times diameter of eye, which is 6 to 9 times in length of head and 2 to 5 times in interocular width; width of mouth once and $\frac{1}{2}$ to twice in length of head; præmaxillary band of teeth curved, 6 to 8 times as long as broad; vomero-pterygoid teeth forming a long and broad band narrowly interrupted in the middle; nasal barbel as

Fig. 260.



Chrysichthys cranchii.
Type. $\frac{1}{2}$.

long as or a little longer than eye; maxillary barbel $\frac{3}{5}$ to once length of head; outer mandibular barbel longer than inner, $\frac{1}{2}$ to $\frac{3}{5}$ length of head. Gill-rakers moderate, 10–13 on lower part of anterior arch. Dorsal I 6, $1\frac{1}{6}$ to $1\frac{1}{3}$ times as distant from end of snout and from root of caudal; spine rugose but not serrated, about $\frac{1}{2}$ length of head; first and second soft rays longest, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Adipose fin $1\frac{1}{2}$ times as long as deep, its base a little shorter than or nearly equal to that of the dorsal and $\frac{1}{2}$ or a little less than $\frac{1}{2}$ its distance from the latter. Anal 12–14, 8–10 rays branched. Pectoral spine about $\frac{1}{2}$ length of head, very feebly denticulate on both sides in the adult, strongly serrated on inner side in the young. Caudal deeply notched, longest rays 2 to $2\frac{1}{2}$ times the median. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Dark brown above, white beneath.

Total length 1000 millim.

Congo and Lake Tanganyika.

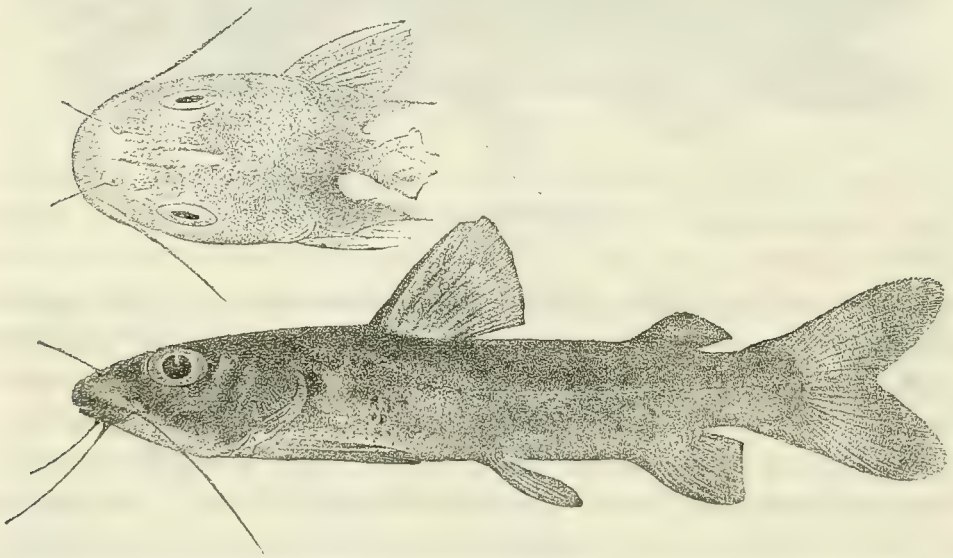
1. Hgr., type.	Lower Congo.	Capt. Tuckey (C.).
2. Yg.	Coquilhatville, Upp. Congo.	M. P. Delhez (C.).
3. Hgr.	Kutu, L. Leopold II., Upp. Congo.	,,
4–5. Ad. & yg.	Monsembe, Upp. Congo.	Rev. J. H. Weeks (C.).
6–7. Yg.	Kondue, Kasai.	M. Luja (C.).
8. Skel.	Albertville, L. Tanganyika.	Capt. Hecq (C.).

14. CHRYSICHTHYS PUNCTATUS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 107, pl. xlii. fig. 1 (1899), and Poiss. Bass. Congo, p. 287 (1901).

Depth of body 5 to $5\frac{1}{2}$ times in total length, length of head 3 to $3\frac{1}{4}$ times. Head moderately depressed, $1\frac{1}{2}$ times as long as broad, rugose above; occipital process narrow, in contact with interneural shield; snout rounded, projecting very slightly beyond mouth, about $\frac{1}{3}$ length of head; eye 4 times in length of head and $1\frac{1}{2}$ times in interocular width; width of mouth about $\frac{1}{2}$ length of head; præmaxillary band of

Fig. 261.



Chrysichthys punctatus.
Type (A. M. C.). $\frac{3}{4}$.

teeth feebly curved, 4 to 5 times as long as broad; vomero-pterygoid teeth forming a long and narrow band interrupted in the middle; nasal barbel a little shorter than eye; maxillary barbel $\frac{3}{4}$ to $\frac{4}{5}$ length of head; outer mandibular barbel $1\frac{1}{2}$ times as long as inner, and $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Gill-rakers moderate, 13 on lower part of anterior arch. Dorsal

I 6, $1\frac{1}{4}$ times as distant from root of caudal as from end of snout; spine feebly serrated behind, $\frac{3}{5}$ to $\frac{2}{3}$ length of head; first soft ray longest, only a little longer than the spine. Adipose dorsal not much longer than deep, its base $\frac{2}{3}$ to $\frac{3}{4}$ that of the rayed dorsal, from which it is separated by a space equal to 2 to $2\frac{1}{2}$ times its base. Anal 11, 7 rays branched. Pectoral spine nearly as long as dorsal, strongly serrated on inner side. Caudal rather deeply notched, with rounded lobes, longest rays twice length of median. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Olive-brown above, white beneath; a few black dots on the sides.

Total length 155 millim.

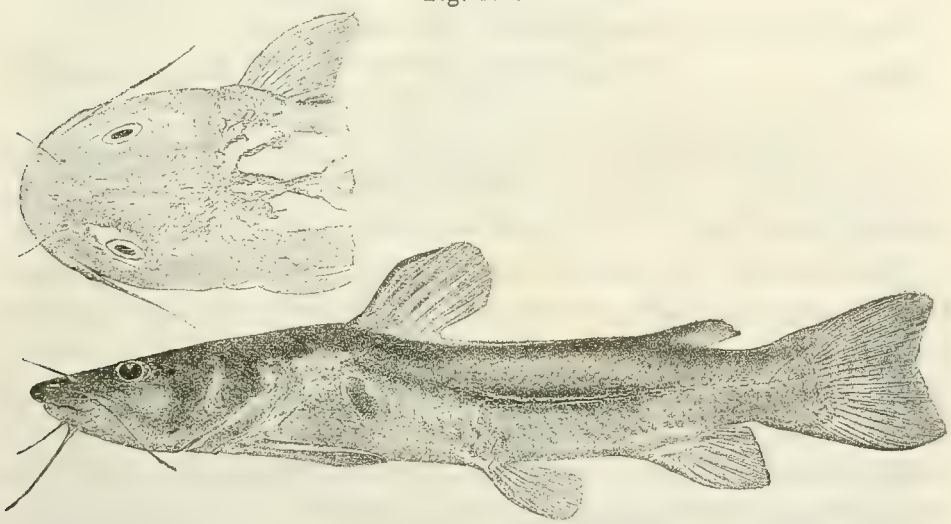
Upper Congo.—Type in Congo Museum, Tervueren.

1–2. Yg., types. Stanley Pool. M. P. Delhez (C.).

15. CHRYSICHTHYS DELHEZI.

Boulenger. Ann. Mus. Congo, Zool. i. p. 108, pl. xlii. fig. 2 (1899), and Poiss. Bass. Congo, p. 288 (1901).

Fig. 262.



Chrysichthys delhezi.
Type (A. M. C.). $\frac{3}{7}$.

Depth of body 5 to $5\frac{1}{2}$ times in total length, length of head 3 times. Head much depressed, $1\frac{1}{5}$ times as long as broad, covered with thick skin above; occipital process narrow, extending to the small interneural shield; snout broadly rounded, projecting very slightly beyond lower jaw, $1\frac{2}{3}$ (young) to 2 times as long as eye, which is 5 (young) to 6 times

in length of head and 2 to $2\frac{1}{3}$ times in interocular width; width of mouth once and $\frac{2}{3}$ in length of head; præmaxillary band of teeth curved, $4\frac{1}{2}$ to 7 times as long as broad; vomero-pterygoid teeth forming a long and broad band, nearly continuous or narrowly interrupted in the middle, its width a little less than that of the præmaxillary band in the adult; nasal barbel $1\frac{1}{3}$ to $1\frac{1}{2}$ diameters of eye; maxillary barbel $\frac{1}{2}$ to $\frac{2}{3}$ length of head; outer mandibular barbel nearly twice as long as inner, $\frac{1}{2}$ to $\frac{3}{5}$ length of head. Gill-rakers moderate, 10 on lower part of anterior arch. Dorsal I 6, slightly nearer end of snout than root of caudal; spine short, not serrated; first and second soft rays longest, about $\frac{1}{2}$ length of head. Base of adipose fin a little shorter than that of dorsal, from which it is separated by a space equal to 2 to 3 times its base. Anal 11, 7 rays branched. Pectoral $\frac{3}{5}$ to $\frac{2}{3}$ length of head; spine strongly serrated on inner border. Caudal rounded, very feebly emarginate in the adult, more deeply (median rays $\frac{3}{5}$ length of outer) in the young. Caudal peduncle $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as deep. Dark brown above, white beneath.

Total length 270 millim.

Congo.—Type in Congo Museum, Tervueren.

1. Hgr. Upper Congo. Brussels University.

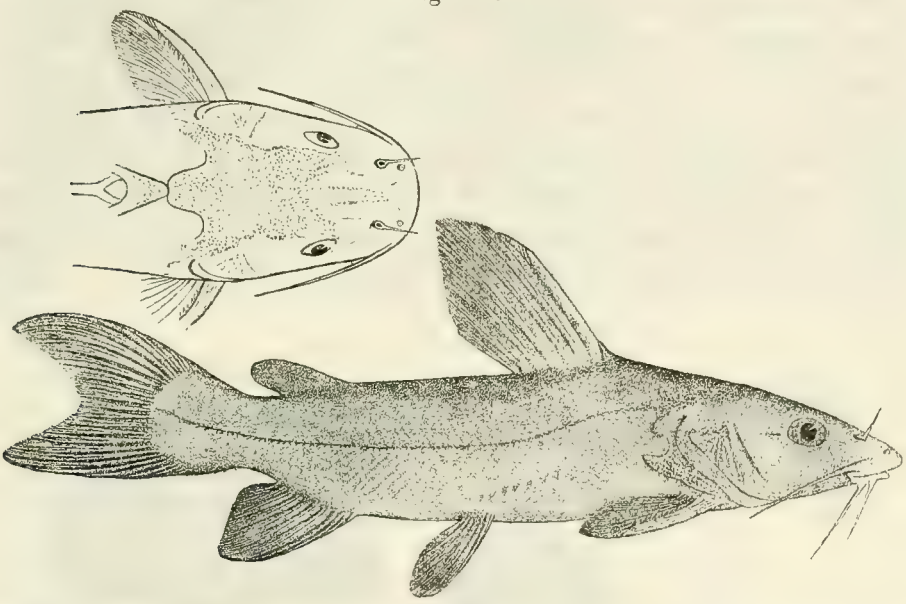
16. CHRYSICHTHYS MABUSI.

Bouleng. Ann. & Mag. N. H. (7) xvi. 1905, p. 645.

Depth of body $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{3}$ times. Head strongly depressed, $1\frac{1}{2}$ times as long as broad, with feeble granular rugosities above; occipital process broad, in contact with interneural shield; snout broadly rounded, twice as long as eye, which is 6 times in length of head and $2\frac{1}{2}$ times in interorbital width; mouth inferior, its width $\frac{1}{2}$ length of head; præmaxillary band of teeth curved, 6 times as long as broad; vomero-pterygoid teeth forming a long but narrow band, narrowly interrupted in the middle; nasal barbel nearly as long as eye; maxillary barbel $\frac{1}{2}$ length of head; outer mandibular barbel $1\frac{1}{2}$ times as long as inner, $\frac{2}{5}$ length of head. Gill-rakers rather long, 16 on lower part of anterior arch. Dorsal I 6, equally distant from end of snout and from root of caudal; spine strong, serrated behind, $\frac{2}{3}$ length of head; second soft ray longest, a little shorter than head. Base of adipose fin $\frac{2}{3}$ that of dorsal, from which it is separated by a space equal to $2\frac{1}{2}$ times its base. Anal 11, 7 rays branched. Pectoral spine $\frac{1}{2}$ length of

head, very strongly serrated on inner border. Caudal deeply forked, with pointed lobes, outer rays about twice as long as middle rays.

Fig. 263.



Chrysichthys mabusi.
Type. $\frac{4}{5}$.

Caudal peduncle $1\frac{2}{3}$ times as long as deep. Olive-brown above, white beneath.

Total length 250 millim.

Lake Bangwelu.

1. Type.	L. Bangwelu.	F. H. Melland, Esq., and Father Foulon (C.).

17. CHRYSICHTHYS ORNATUS.

Bouleng. Ann. Mus. Congo, ii. p. 39, pl. xi. fig. 2 (1902).

Depth of body $4\frac{1}{4}$ to 5 times in total length, length of head 3 to $3\frac{1}{3}$ times. Head much depressed, $1\frac{1}{6}$ to $1\frac{1}{5}$ times as long as broad, finely granular on the vertex and occiput, striated on the snout; occipital process broad, in contact with interneural shield; snout broadly rounded, nearly twice as broad as long, not extending beyond lower jaw, its length $\frac{2}{5}$ or a little more than $\frac{1}{3}$ that of head; eye 4 to $5\frac{1}{2}$ times in length of head, $1\frac{2}{3}$ to $2\frac{1}{4}$ times in interorbital width; width of mouth $1\frac{2}{3}$ to $1\frac{3}{4}$ times in length of head; præmaxillary band of teeth curved, 6 to 8 times as long as broad; vomero-pterygoid teeth forming a broad band

narrowly interrupted in the middle; nasal barbel $\frac{1}{4}$ to $\frac{1}{3}$ length of head; maxillary barbel as long as or a little longer than head, sometimes terminating in a small warty club-shaped expansion; outer mandibular barbel $\frac{3}{5}$ to $\frac{3}{4}$ length of head, inner $\frac{1}{3}$ to $\frac{2}{5}$. Gill-rakers moderate, 9 or 10 on lower part of anterior arch. Dorsal I 6, equally distant from root of caudal and from end of snout or a little nearer the latter; spine not serrated, $\frac{2}{3}$ length of head; first soft ray longest, shorter than head. Adipose dorsal 2 or 3 times as long as deep, nearly as long as rayed dorsal, from which it is separated by a space equal to twice its base. Anal 11–13, 6–8 rays branched. Pectoral spine as long as dorsal, finely denticulate on outer border, strongly serrated on inner. Caudal

Fig. 264.

Chrysichthys ornatus.
Type (A. M. C.). $\frac{2}{3}$.

deeply forked, with pointed lobes, longest rays 2 to $2\frac{1}{2}$ times length of median. Caudal peduncle a little longer than deep. Brown above, speckled with blackish and with broad blackish bands; one of these extends from the operculum to the base of the dorsal, forming a crescent on the nape; another on each side of the body sending off an upper branch to the adipose fin; a narrow interorbital cross-band; fins spotted with blackish; a blackish band on each lobe of the caudal; lower parts white.

Total length 190 millim.

Upper Congo and Ubanghi.

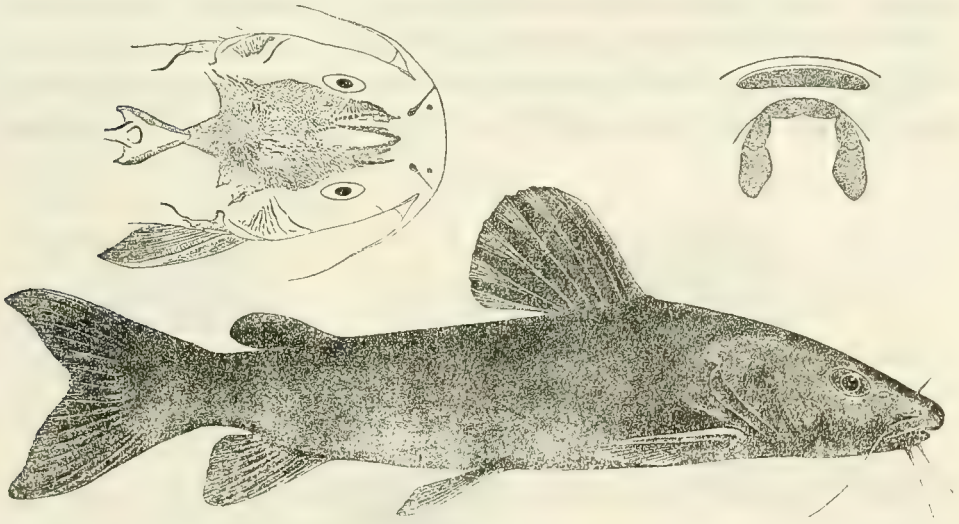
1–3. Types. Monsembe, Upp. Congo. Rev. J. H. Weeks (P.).

18. CHRYSICHTHYS MYRIODON.

Bouleng. Ann. Mus. Congo, Zool. i. p. 139, pl. li. (1900), Poiss. Bass. Congo, p. 284 (1901), and Tr. Zool. Soc. xvi. 1901, p. 147.

Depth of body $4\frac{1}{2}$ to 5 times in total length, length of head $3\frac{1}{3}$ to $3\frac{1}{2}$ times. Head much depressed, $1\frac{1}{6}$ to $1\frac{1}{4}$ times as long as broad, rough on vertex and occiput; occipital process in contact with interneural shield; snout broadly rounded, scarcely projecting beyond lower jaw, $\frac{1}{3}$ length of head; eye $3\frac{1}{2}$ (young) to 6 times in length of head, $1\frac{1}{4}$ (young) to $2\frac{1}{2}$ times in interocular width; width of mouth $1\frac{2}{3}$ to 2 times in length of head; præmaxillary band of teeth nearly straight, 6 to 7 times as long

Fig. 265.



Chrysichthys myriodon.
Type (A. M. C.). $\frac{1}{4}$.

as broad; vomero-pterygoid teeth very fine and closely set, forming a long and broad uninterrupted band in the adult (narrower and slightly interrupted in the middle in the young), strongly widening posteriorly; nasal barbel $\frac{3}{4}$ to $\frac{4}{5}$ diameter of eye; maxillary barbel $\frac{1}{2}$ to $\frac{3}{4}$ length of head; inner mandibular barbel $\frac{1}{3}$ length of head, outer a little less than $\frac{1}{2}$. Gill-rakers 12 (young) to 20 on lower part of anterior arch. Dorsal I 6, once and $\frac{1}{4}$ as distant from root of caudal as from end of snout; spine nearly $\frac{1}{2}$ length of head, rugose, not serrated; first and second soft rays longest, about $\frac{2}{3}$ length of head. Adipose fin longer than deep, its base $\frac{2}{3}$ that of the dorsal and $\frac{1}{3}$ to $\frac{1}{2}$ its distance from the latter. Anal 12–14, 8–10 rays branched. Pectoral spine a little longer and stronger than dorsal, strongly serrated on inner side. Caudal

deeply notched, with obtusely pointed lobes, longest rays twice length of median. Caudal peduncle $1\frac{2}{3}$ to 2 times as long as deep. Olive-brown above, white beneath; young with a blackish spot at the end of the dorsal, and another on each lobe of the caudal.

Total length 470 millim.

Lake Tanganyika.—Type in Congo Museum, Tervueren.

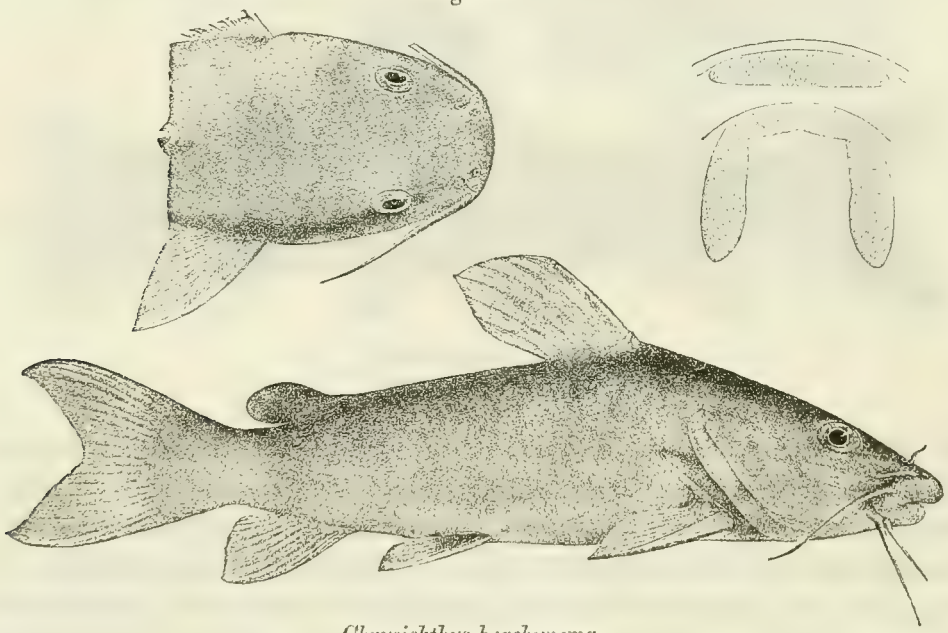
1. Ad., type.	Tembwi.	Prof. J. E. S. Moore (C.).
2. Skel.	Kinyamkolo.	,,
3–6. Yg.	Kibwesi.	,,

19. CHRYSICHTHYS BRACHYNEMA.

Boulenger. Ann. & Mag. N. H. (7) vi. 1900, p. 480, Poiss. Bass. Congo, p. 286 (1901), and Tr. Zool. Soc. xvi. 1901, p. 148, pl. xv.

Depth of body 4 to 5 times in total length, length of head $3\frac{1}{3}$ to $3\frac{1}{2}$ times. Head much depressed, $1\frac{1}{6}$ or $1\frac{1}{5}$ times as long as broad, covered

Fig. 266.



Chrysichthys brachynema.
Type (Tr. Z. S. 1901). $\frac{1}{3}$.

with thick skin above; occipital process hidden under the skin, but reaching interneural shield; snout much flattened, about twice as broad as long, broadly rounded, projecting a little beyond lower jaw, its length $\frac{1}{3}$ that of head; eye 5 to 6 times in length of head, 2 to $2\frac{1}{2}$ times in interocular width; width of mouth $1\frac{2}{3}$ to 2 times in length of head;

præmaxillary band of teeth scarcely curved, 5 to 6 times as long as broad; vomero-pterygoid teeth forming a long and broad band, uninterrupted or narrowly interrupted mesially, strongly widening posteriorly in the adult, narrowed and tapering behind in the young; nasal barbel $\frac{2}{3}$ to $1\frac{1}{5}$ times diameter of eye; maxillary barbel $\frac{1}{3}$ to $\frac{1}{2}$ length of head; outer mandibular barbel $\frac{1}{3}$ to $\frac{1}{2}$ length of head, inner $\frac{1}{5}$ to $\frac{1}{4}$. Gill-rakers moderate, 13–18 on lower part of anterior arch. Dorsal I 6, a little nearer end of snout than root of caudal; spine $\frac{2}{3}$ length of head, very feebly serrated in front and behind, covered with thick skin; first, second, and third soft rays equal, about $\frac{2}{3}$ length of head. Adipose fin $1\frac{1}{2}$ to 2 times as long as deep, its base hardly equal to that of dorsal, and $\frac{1}{3}$ to $\frac{1}{2}$ its distance from the latter. Anal 12–13, 8 or 9 rays branched. Pectoral spine thicker and longer than dorsal, strongly serrated on inner side. Caudal deeply notched, with obtusely pointed lobes, longest rays 2 to $2\frac{1}{2}$ times length of median. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as deep. Olive above, white beneath.

Total length 400 millim.

Lake Tanganyika.

1–3. Ad. & hgr., types.	Kalambo.	Prof. J. E. S. Moore (C.).
4. Hgr., type.	Usumbura.	„
5. Hgr.	Niamkolo.	Dr. W. A. Cunnington (C.).

16. CLAROTES.

Kner, Sitzb. Ak. Wien, xvii. 1855, p. 313; Günth. Cat. Fish. v. p. 73 (1864); Bouleng. Fish. Nile, p. 339 (1907).

Gonocephalus, Kner, l. c.

Octonematichthys, Bleek. Act. Soc. Sc. Ind.-Neerl. iv. 1858, p. 60, and Nederl. Tijdschr. Dierk. i. 1863, p. 95.

Distinguished from *Chrysichthys* only by the presence of rays (one thick anterior spinous ray and several articulated soft rays) in the adipose dorsal fin. But there is no sign of these rays in very young specimens, the adipose fin of which cannot be distinguished from that of a *Chrysichthys*; they first appear as slender, hair-like, horny filaments, and they are gradually transformed into structures similar to those of the anterior dorsal fin, except that they are deprived of endoskeletal supports or baseosts; the spine is formed by the fusion of fulcra-like scutes.

Vertebræ 43 (19+24).

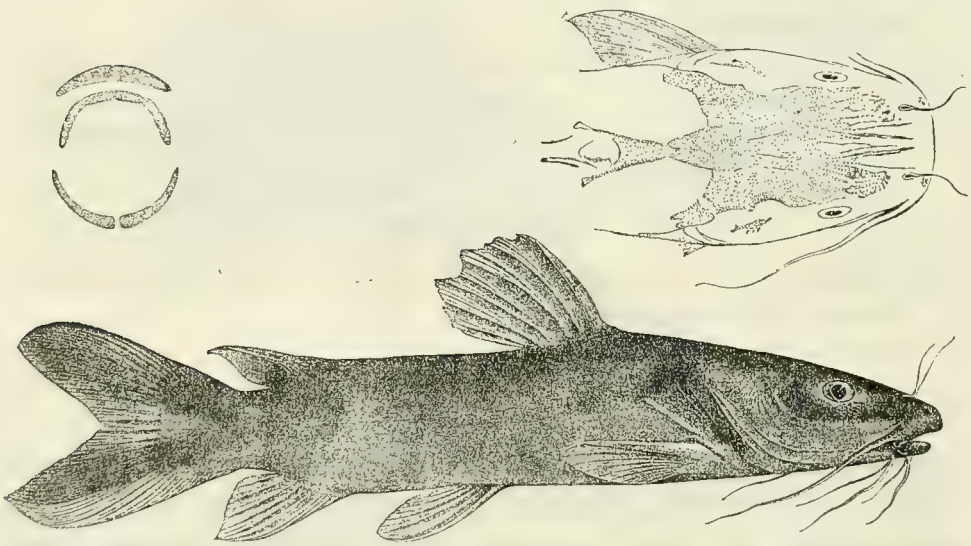
A single species.

1. CLAROTES LATICEPS.

Pimelodus laticeps, Rüpp. Beschr. n. Fische Nil, p. 7, pl. i. fig. 2 (1829).
Bagrus nigrita, Cuv. & Val. Hist. Poiss. xiv. p. 426, pl. cccexvi. (1839).
Bagrus laticeps, Heckel, Russegger's Reise Egypt. iii. p. 331 (1849).
Clarotes heuglinii, Kner, Sitzb. Ak. Wien, xvii. 1855, p. 313, pls. i. & ii.; Hyrtl, Denkschr. Ak. Wien, xvi. 1858, p. 1, pl. —; Kner, Arch. f. Naturg. 1865, ii. p. 101.
Octonematichthys nigrita, Bleek. Act. Soc. Sc. Ind.-Neerl. iv. 1858, p. 65.
Clarotes laticeps, Günth. Cat. Fish. v. p. 73 (1864), Zool. Rec. 1866, p. 150, and Petherick's Trav. ii. p. 231 (1869); Vincig. Ann. Mus. Genova, (2) xv. 1895, p. 39, xvii. 1896, p. 27, and 1897, p. 349; Bouleng. Fish. Nile, p. 340, pl. lxi. (1907).
Chrysichthys cranchii (non Leach), Steind. Sitzb. Ak. Wien, lx. i. 1870, p. 987.
Chrysichthys nigrita, Sauv. N. Arch. Mus. (2) iii. 1880, p. 40.

Depth of body $4\frac{1}{4}$ to $5\frac{2}{3}$ times in total length, length of head $2\frac{4}{5}$ to $3\frac{1}{4}$ times. Head much depressed, $1\frac{1}{7}$ to $1\frac{1}{3}$ times as long as broad, its

Fig. 267.



Clarotes laticeps.
White Nile (F. N.). $\frac{1}{5}$.

upper surface rugose with fine granulations, which are most crowded on the occiput; operculum with radiating striæ; occipital process as long as broad, nearly as long as the small interneural shield with which it is in contact; snout broad, rounded or truncate; eye large, transversely oval, 1 (young) to 3 times in length of snout, $1\frac{1}{2}$ to 5 times in interocular width; mouth inferior, its width equal to or a little greater

than interocular width; præmaxillary band of teeth 5 to 7 times as long as broad; vomero-pterygoid teeth forming a narrow band, often narrowly interrupted in the middle, sometimes also on the sides. Nasal barbel $\frac{1}{4}$ to $\frac{2}{5}$ length of head; maxillary barbel flattened, band-like at base, nearly 1 to $1\frac{2}{3}$ times length of head; outer mandibular barbel $1\frac{1}{3}$ to $1\frac{4}{5}$ times as long as inner, $\frac{1}{2}$ to nearly once length of head. Gill-rakers rather long, 16–22 on lower part of anterior arch. Humeral process short, acutely pointed, granulate. Dorsal I 6; spine strong, feebly serrated behind in the young, with granulations in front in the adult, $\frac{1}{2}$ to $\frac{2}{3}$ length of head; first soft ray longer, but always shorter than head. Second dorsal short, deeper than long, its distance from the first about twice as great as basal length of latter; the rays not distinct in specimens under 100 millim. total length, the strong anterior spine fully ossified in specimens over 400 millim. Anal 12–14, 7 or 8 rays branched. Pectoral much shorter than head, not reaching ventral, with a strong spine bearing 5 (young) to 18 serræ on inner side; these serræ much stronger in proportion in young than in adult, which have a fine serration on outer edge. Ventral much nearer root of caudal than end of snout. Caudal deeply forked, lobes acutely pointed in young, more obtusely, or even rounded, in adult. Caudal peduncle as long as deep or a little longer than deep. Tubes of lateral line strongly branched. Brown above, silvery white below; a blackish spot above the humeral process; a brown or blackish band on each lobe of the caudal fin.

Total length 570 millim.; grows to 800.

Upper Nile, Blue Nile, White Nile, Bahr-el-Gebel, Webi Shebeli, Tana and Gana (East Africa), Chad Basin, Senegal, Niger.—Type in Senckenberg Museum, Frankfort/M.

1. Yg.	Between Luxor and Assuan.	L. Loat, Esq. (C.).
2, 3, 4–5. Ad. & yg.	Khartum.	J. Petherick, Esq. (C.).
6. Hgr.	Omdurman.	L. Loat, Esq. (C.).
7, 8. Yg.	Wad Medine, Blue Nile.	,,
9. Yg.	Rosaires, Blue Nile.	Capt. S. Flower (P.).
10. Yg.	Mangara, White Nile.	L. Loat, Esq. (C.).
11. Yg.	Kawa, ,,	,,
12. Skel.	,, ,,	,,
13–14. Yg.	Nur-ed-Dain, White Nile.	,,
15–21. Hgr. & yg.	Goz abu Gumah, White Nile.	,,
22. Ad.	Jebelain, ,,	,,
23. Ad.	Gharb-el-Aish, ,,	,,
24–26. Yg.	Fashoda, ,,	,,

27. Ad.	Gondokoro, Bahr-el-Gebel.	L. Loat, Esq. (C.).
28–29. Yg.	Ngatana, Tana R.	Prof. J. W. Gregory (P.).
30. Head of ad.	L. Chad.	Capt. G. B. Gosling (P.).
31–32. Hgr.	Kano, Hadeija R., Chad Basin.	„
33. Ad.	St. Louis, Senegal.	M. P. Delhez (C.).
34–36. Yg.	Kaëdi, „	„
37. Ad.	Niger.	Mr. J. T. Dalton (C.).
38. Ad.	„	W. A. Forbes, Esq. (P.).
39–41. Ad. & hgr.	Mureji, Upp. Niger.	J. S. Budgett, Esq. (P.).
42. Hgr.	Oguta, Low. Niger.	Dr. W. J. Ansorge (C.).
43–45. Yg.	Abo, „	„
46. Yg.	R. Benue, N. of Ibi.	H. L. Norton Traill, Esq. (C.).

17. GEPHYROGLANIS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 42 (1899), and Poiss. Bass. Congo, p. 292 (1901).

Distinguished from *Chrysichthys* by the absence of teeth on the palate. Nasal barbel short, sometimes hardly developed.

Tropical and South Africa.

Synopsis of the Species.

I. Nasal barbel $\frac{1}{4}$ to $\frac{1}{2}$ diameter of eye ; maxillary barbel shorter than head.

a. Maxillary barbel not more than $\frac{3}{5}$ length of head ; folded dorsal fin not extending to the adipose.

Anal with 8 branched rays ; adipose fin a little shorter than rayed dorsal ; caudal with acutely pointed lobes ; occiput feebly granulate . . 1. *G. congicus,* Blgr., p. 345.

Anal with 10 branched rays ; adipose fin a little longer than rayed dorsal ; caudal with acutely pointed lobes ; four longitudinal ridges on the vertex ; occiput strongly rugose . . . . . 2. *G. ogoensis,* Pellegr., [p. 346.

Anal with 11 to 13 branched rays; adipose fin longer than rayed dorsal ; caudal with obtuse lobes ; head smooth . . . . . 3. *G. sclateri,* Blgr., p. 346.

b. Maxillary barbel a little shorter than head ; folded dorsal reaching adipose ; anal with 8 branched rays ; caudal with acutely pointed lobes ; occiput striated . . . . 4. *G. tilhoi,* Pellegr., p. 348.

II. Nasal barbel $\frac{1}{3}$ to $\frac{1}{2}$ diameter of eye ; maxillary barbel a little longer than head; folded dorsal reaching adipose, which is shorter ; anal with 8 or 9 branched rays ; caudal with acutely pointed lobes ; vertex and occiput strongly striated and granulate . . . . . 5. *G. longipinnis,* Blgr., [p. 348.

1. GEPHYROGLANIS CONGICUS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 42, pl. xx. fig. 2 (1899), and Poiss. Bass. Congo, p. 292, pl. xiv. fig. 2 (1901).

Depth of body $5\frac{1}{2}$ times in total length, length of head 4 times. Head depressed, $1\frac{3}{5}$ times as long as broad, smooth except on the occiput, which is feebly granulated and striated, and on the operculum, which is striated ; occipital process as long as broad, in contact with interneural shield ; snout obtusely conical, $\frac{2}{5}$ length of head ; eye oval, $3\frac{2}{3}$ (young) to 6 times in length of head, twice in interorbital width ;

Fig. 268.

Gephyroglanis congicus.
Type (A. M. C.). $\frac{1}{4}$.

nasal barbel very small, not $\frac{1}{3}$ diameter of eye ; maxillary barbel hardly half length of head ; outer mandibular barbel $\frac{1}{3}$ length of head and about twice as long as inner ; mouth not quite $\frac{1}{2}$ width of head ; præmaxillary band of teeth straight, short and broad. Dorsal I 6, longest ray shorter than head ; spine $\frac{2}{3}$ to $\frac{3}{4}$ length of head, not serrated or feebly serrated behind in the young. Adipose fin $1\frac{1}{2}$ times as long as deep, a little shorter than rayed dorsal, its base $2\frac{1}{2}$ times in its distance from the latter. Anal 12, 8 rays branched. Pectoral spine $\frac{1}{2}$ length of head, feebly serrated on inner border in the adult, strongly in the young. Caudal deeply forked, with pointed lobes. Caudal

peduncle a little over twice as long as deep. Brownish above, white beneath.

Total length 480 millim.

Upper Congo.—Type in Congo Museum, Tervueren.

2. GEPHYROGLANIS OGOENSIS.

Pellegr. Bull. Mus. Paris, 1900, p. 179, and Bull. Soc. Philom. (9) x. 1908, p. 187.

Depth of body 5 to $5\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ times. Head nearly as deep as broad, $1\frac{3}{4}$ times as long as broad, with four longitudinal ridges on the vertex and strong rugosities on the occiput, to which the skin is adherent; occipital process much longer than broad, in contact with interneural shield; snout obtusely conical, more than $\frac{2}{5}$ length of head; eye oval, twice in snout, $4\frac{2}{3}$ times in head, $1\frac{1}{4}$ to $1\frac{1}{3}$ times in interocular width; nasal barbel $\frac{1}{2}$ diameter of eye; maxillary barbel $\frac{3}{5}$ length of head, outer mandibular $\frac{2}{5}$, inner mandibular $\frac{2}{7}$; mouth $\frac{1}{2}$ width of head; præmaxillary band of teeth straight, nearly 4 times as long as broad. Dorsal I 6, not reaching adipose fin when folded, longest soft ray $\frac{3}{4}$ length of head; spine strong, striated, feebly serrated behind, $\frac{2}{3}$ length of head. Adipose fin about twice as long as deep, as long as or a little longer than rayed dorsal, its base once and $\frac{2}{3}$ to twice and $\frac{1}{2}$ in its distance from the latter. Anal 15, 10 rays branched. Pectoral spine a little shorter than dorsal, strongly serrated on inner border. Caudal deeply forked, longer than head, with long pointed lobes. Caudal peduncle twice as long as deep *.

Total length 250 millim.

Aduma, Ogowe.—Type in Paris Museum.

3. GEPHYROGLANIS SCLATERI.

Bouleng. Ann. S. Afr. Mus. ii. 1901, p. 228, pl. xiii.

Depth of body 5 to 6 times in total length, length of head 4 times. Head $1\frac{1}{4}$ to $1\frac{1}{3}$ as broad as deep, $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, perfectly smooth; occipital process much longer than broad, in contact with the interneural shield; snout obtusely conical, $\frac{2}{5}$ length of head; eye 5 to 6 times in length of head, $1\frac{1}{3}$ to $1\frac{2}{3}$ times in interocular width; nasal barbel very short, barely $\frac{1}{3}$ diameter of eye; maxillary barbel $\frac{2}{5}$ to $\frac{1}{2}$

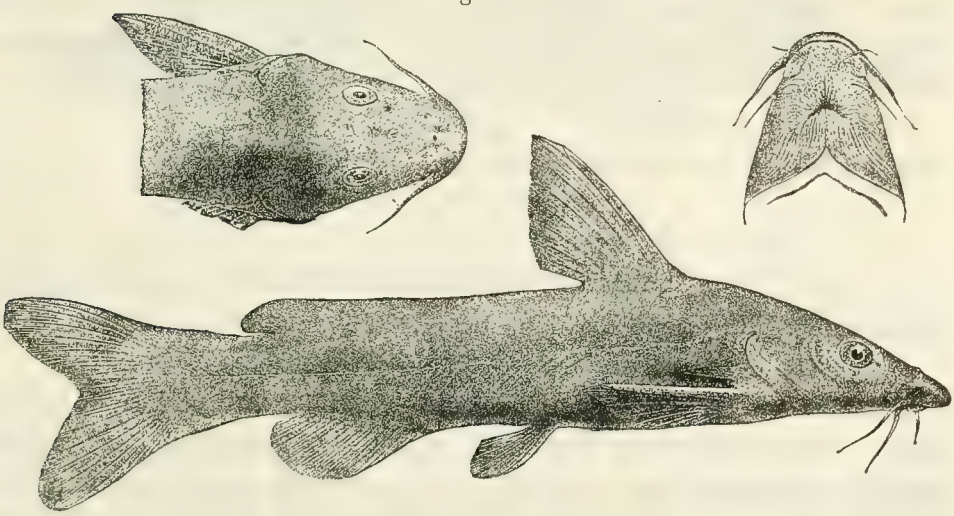
* Described from the type specimen and another, from the same locality, named "*Chrysichthys nigrodigitatus*" in the Paris Museum.

length of head, outer mandibular $\frac{1}{3}$, inner $\frac{1}{5}$. Mouth $\frac{1}{3}$ to $\frac{2}{5}$ width of head; præmaxillary band of teeth curved, 3 to 4 times as long as broad. Dorsal I 7, $1\frac{2}{3}$ to 2 times as deep as long, not reaching adipose fin when folded; spine strong, smooth, $\frac{2}{3}$ to $\frac{4}{5}$ length of head; longest soft ray a little shorter than head. Adipose fin about 3 times as long as deep, a little shorter than its distance from the dorsal. Anal 16–17, 11–13 rays branched. Pectoral spine a little shorter than dorsal, strongly serrated on inner border. Caudal forked, with obtuse lobes, shorter than the head. Caudal peduncle $1\frac{1}{3}$ times as long as deep. Uniform brownish or green above, whitish beneath.

Total length 190 millim.

Orange River System.—Type in S. African Museum, Cape Town.

Fig. 269.



Gephyroglanis sclateri.
Type (Ann. S. Afr. Mus. 1901). $\frac{2}{3}$.

1. One of the types.	Vaal R., Transvaal.	S. African Museum (P.).
2–3. Ad. & hgr.	Vaal R. at Standerton, Transvaal.	S. Pershouse, Esq. (P.).
4. Skel.	„ „ „	„
5. Ad.	Mooi R. at Potchefstroom, Transvaal.	Capt. Stenning (C.).
6. Ad.	Mooi R., Transvaal.	Dr. J. D. F. Gilchrist (P.).
7. Ad.	Kraai R., Cape Colony.	„

4. GEPHYROGLANIS TILHOI.

Pellegr. Bull. Mus. Paris, 1909, p. 243.

Depth of body 5 times in total length, length of head $3\frac{1}{3}$ times. Head depressed, slightly striated on occiput and opercle; occipital process longer than broad and in contact with interneural shield; snout as long as eye, which is oval, hardly more than 3 times in length of head, and exceeds a little interorbital width; nasal barbel minute, quite rudimentary; maxillary barbel a little shorter than head; outer mandibular barbel a little longer than inner and nearly $\frac{1}{2}$ length of head; mouth about $\frac{1}{2}$ width of head. Dorsal I 6, reaching adipose fin when folded, first soft ray produced into a filament, much longer than head; spine $\frac{3}{5}$ length of head. Base of adipose fin $1\frac{3}{4}$ times in its distance from rayed dorsal. Anal 11, 8 rays branched. Pectoral spine about $\frac{1}{2}$ length of head, strongly serrated on inner border. Caudal deeply forked, with pointed lobes. Caudal peduncle a little longer than deep.

Total length 118 millim.

Lake Chad.—Type in Paris Museum.

5. GEPHYROGLANIS LONGIPINNIS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 109, pl. xli. fig. 4 (1899), and Poiss. Bass. Congo, p. 293 (1901).

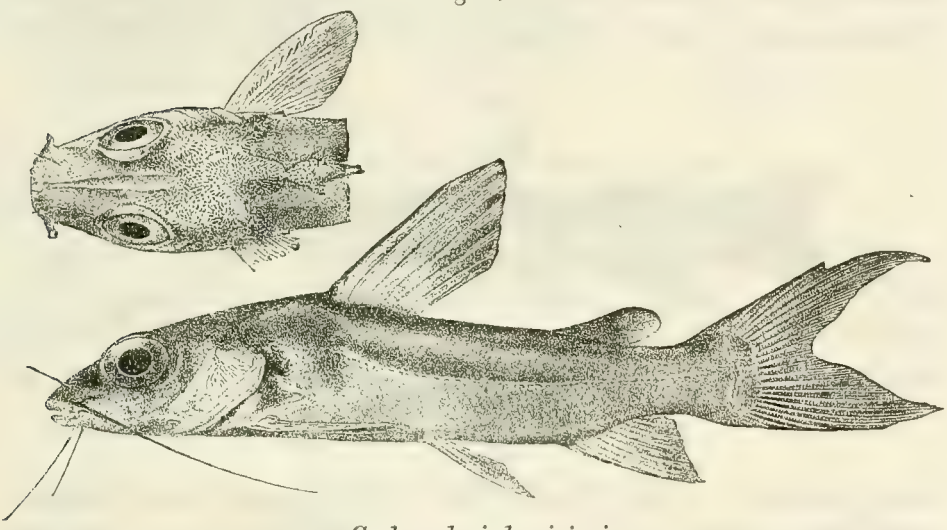
Depth of body $4\frac{3}{4}$ to 5 times in total length, length of head 3 to $3\frac{1}{4}$ times. Head moderately depressed, $1\frac{1}{2}$ times as long as broad, rather strongly granulated and striated above; occipital process as long as broad, in contact with interneural shield; snout obtusely conical, as long as eye; latter oval, about 3 times in head, 1 to $1\frac{2}{3}$ times in interocular width; nasal barbel $\frac{1}{3}$ to $\frac{1}{2}$ diameter of eye; maxillary barbel a little longer than head; outer mandibular barbel $\frac{3}{5}$ length of head and not quite twice length of inner; mouth $\frac{1}{2}$ width of head; præmaxillary band of teeth straight, about 3 times as long as broad. Dorsal I 6, reaching origin of adipose fin when folded, first and second soft rays as long as head; spine $\frac{3}{4}$ length of head, feebly serrated behind. Adipose fin about as long as deep, $\frac{3}{5}$ to $\frac{2}{3}$ base of rayed dorsal, its base 2 to $2\frac{1}{2}$ in its distance from the latter. Anal 13–14, 8 or 9 rays branched. Pectoral spine $\frac{2}{3}$ length of head, strongly serrated on inner border. Caudal deeply forked, with pointed lobes. Caudal peduncle $1\frac{1}{2}$ to $1\frac{2}{3}$

times as long as deep. Brownish above, white beneath; a blackish spot behind the gill-cover, fins blackish at the end.

Total length 140 millim.

Upper Congo.—Type in Congo Museum, Tervueren.

Fig. 270.



Gephyroglanis longipinnis.
Type (A. M. C.). $\frac{6}{7}$.

1. One of the types.	Stanley Pool.	M. P. Delhez (C.).
2. Hgr.	Upper Congo.	Brussels University.

18. PHYLLONEMUS.

Bouleng. Tr. Zool. Soc. xvii. 1906, p. 552.

Like *Chrysichthys*, but without nasal barbel and with the maxillary barbel fringed on both sides by a leaf-like membrane in its distal part; only vomerine teeth on the palate.

A single species.

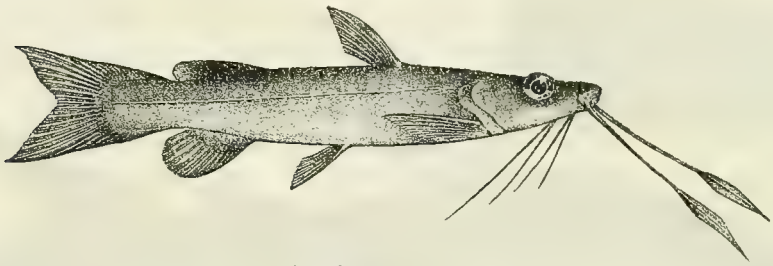
1. PHYLLONEMUS TYPUS.

Bouleng. l. c. pl. xxxii. fig. 3.

Depth of body $5\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ times. Head smooth, $1\frac{1}{2}$ times as long as broad; occipital process very short, widely separated from dorsal; snout flat, broadly rounded, subtruncate, projecting very slightly beyond mouth; eye $\frac{1}{4}$ length of head, equal to interorbital width; maxillary barbel $1\frac{2}{3}$ times as long as head, extending beyond extremity of pectoral; outer mandibular barbel as long as head,

twice as long as inner; vomerine teeth in a short transverse series. Dorsal I 6, a little nearer end of snout than root of caudal; spine short and feeble; longest rays $\frac{2}{3}$ length of head. Adipose dorsal a little shorter than its distance from the rayed dorsal. Anal 12, opposed to adipose dorsal, which is about $\frac{2}{3}$ as long as its distance from rayed dorsal. Pectoral spine $\frac{1}{2}$ length of head, strongly serrated on inner border. Ventral inserted a little behind vertical of dorsal, not reaching anal.

Fig. 271.



Phyllonemus typus.
Type (Tr. Z. S. 1906).

Caudal peduncle a little longer than deep. Caudal deeply notched. Brown above, white below; maxillary barbels blackish at the end; dorsal dark brown, adipose fin dark brown, white behind; caudal brown, each lobe tipped with white; anal white, dark brown at the base; ventrals white.

Total length 73 millim.

Lake Tanganyika.

1. Type. Niamkolo. Dr. W. A. Cunnington (C.).

19. LEPTOGLANIS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 42 (1902).

Body more or less elongate, feebly compressed. Dorsal and anal fins short, the former consisting of a spine and 5 branched rays; an adipose dorsal fin. Pectoral fin expanded horizontally, with a spine. Ventral fin with 6 rays, behind dorsal. Three pairs of barbels: maxillary and two mandibulars. Nostrils widely separated from each other. Eye superior, without free border. Mouth small, with minute teeth; palate toothless; maxillary much prolonged, movable, connected with the head by a membranous fold. Gill-membranes narrowly attached to isthmus. Air-bladder large, free.

Tropical Africa.

Two species:—

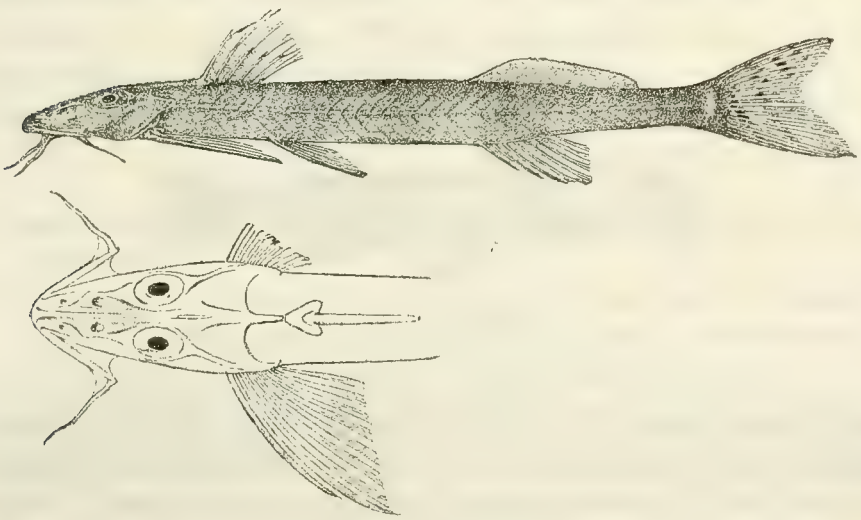
Head twice as long as broad; diameter of eye much greater than interorbital width; pectoral reaching ventral, its spine slender, not serrated	1. *L. xenognathus*, Blgr., p. 351.
Head slightly longer than broad; diameter of eye a little less than interorbital width; pectoral not reaching ventral, its spine stout, strongly serrated	2. *L. rotundiceps*, Hilg, p. 352.

1. LEPTOGLANIS XENOGNATHUS.

Bouleng. t. c. p. 43, pl. xiv. fig. 1.

Depth of body 10 times in total length, length of head $4\frac{1}{3}$ times. Head much depressed, twice as long as broad; snout obtusely pointed, half length of head; eye 4 times in length of head, 3 times interocular width; posterior nostril nearer eye than end of snout;

Fig. 272.



Leptoglanis xenognathus.
Type (A. M. C.). $\frac{5}{3}$.

maxillary extending to below anterior border of eye; maxillary barbel $\frac{2}{5}$ length of head, mandibulars subequal, $\frac{1}{2}$; a narrow occipital process, nearly reaching interneural plate. Dorsal I 5, very near head; spine not serrated, $\frac{1}{2}$ length of head. Adipose dorsal 4 times as long as deep, $2\frac{1}{2}$ times as long as rayed dorsal, a little shorter than its distance from

latter. Anal III 5. Pectoral nearly as long as head, extending a little beyond root of ventral; spine slender, not serrated. Caudal rather deeply notched, lower lobe the longer. Caudal peduncle twice as long as deep. Brownish; fins whitish; two transverse series of brown spots on the dorsal and several oblique series of brown spots on the caudal.

Total length 55 millim.

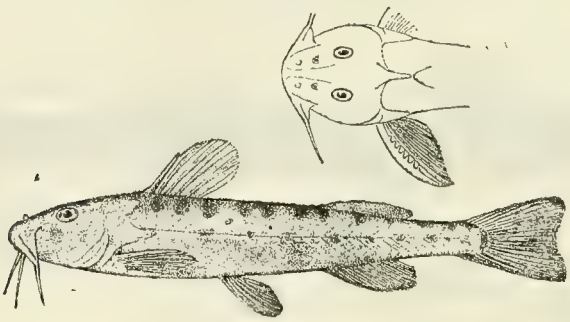
Ubanghi.—Type in Congo Museum, Tervueren.

2. LEPTOGLANIS ROTUNDICEPS.

Gephyroglanis rotundiceps, Hilgend. Zool. Jahrb., Syst. xxii. 1905, p. 412.

Depth of body 5 times in total length, length of head 4 times. Head moderately depressed, slightly longer than broad; snout broadly rounded, half length of head; eye $4\frac{1}{2}$ to 5 times in length of head, a little less than interocular width; posterior nostril nearer eye than end of snout; maxillary extending to below posterior nostril; maxillary

Fig. 273.



Leptoglanis rotundiceps.
Type. ×2.

barbel about $\frac{2}{3}$ length of head, outer mandibular $\frac{3}{4}$, inner mandibular $\frac{1}{2}$; occipital process narrow, nearly reaching interneural plate. Dorsal I 5, very near head; spine not serrated, about $\frac{2}{5}$ length of head. Adipose dorsal low, about $1\frac{1}{2}$ times as long as rayed dorsal, shorter than its distance from latter. Anal III 8–9. Pectoral nearly as long as head, not reaching ventral; spine stout, strongly serrated on inner side. Caudal feebly notched. Caudal peduncle twice as long as deep. Pale brownish above, with round darker spots.

Total length 37 millim.

Bubu River, Masailand.—Types in Berlin Museum.

1–5. Types. Bubu R. at Irangi. Prof. O. Neumann (C.).

20. AMPHILIUS.

Pimelodus, part., Günth. Cat. Fish. v. p. 114 (1864).
Amphilius, Günth. t. c. p. 115 ; Poche, Zool. Anz. 1902, pp. 121 & 212.
Anoplopterus, Pfeff. Jahrb. Hamb. Wiss. Anst. vi. 2, 1889, p. 15, and Thierw. O.-Afr., Fische, p. 33 (1896) ; Boulenger. Ann. & Mag. N. H. (7) i. 1898, p. 255, and Ann. Mus. Congo, Zool. ii. p. 41 (1902).
Chimarrhoglanis, Vaill. Bull. Mus. Paris, 1897, p. 81.

Body more or less elongate, more or less depressed anteriorly. Dorsal and anal fins short, the former consisting of a soft simple ray and 5 to 7 branched rays ; an adipose dorsal fin. Pectoral fin expanded horizontally, the outer ray more or less thickened but not ossified, formed of very numerous angularly bent articles, bearing an outer series or fringe of hair-like rays. Ventral fin with 6 rays, the outer of which is similar to the outer pectoral. Three pairs of barbels : maxillary and two mandibulars. Nostrils widely separated from each other. Eye superior, without free border. Maxillary bone rather large, hidden in the lip but bordering the mouth ; jaws with a band of villiform teeth ; no teeth on the palate. Gill-membranes free, deeply notched. Air-bladder large, free.

Vertebræ 41 (19–20+20–21). 8 or 9 branchiostegal rays. A more or less distinct foramen above the axil.

Tropical Africa.

Synopsis of the Species.

I. Dorsal entirely in advance of the ventrals, above the space between the latter and the pectorals.

A. Head not or but slightly longer than broad ; snout broadly rounded, its length not more than twice interocular width ; base of adipose dorsal at least nearly twice as long as that of rayed dorsal.

1. Length of head $5\frac{1}{3}$ times in total length.

Maxillary barbel longer than head; caudal peduncle not longer than deep . . . . . 1. *A. uranoscopus*, Pfeff., [p. 354.

2. Length of head 4 to $4\frac{2}{3}$ times in total length.

Maxillary barbel shorter than head; length of snout $1\frac{2}{3}$ to 2 times interocular width; caudal peduncle not longer than deep . . . . . 2. *A. grandis*, Blgr., p. 355.

Maxillary barbel as long as head ; length of snout $1\frac{1}{2}$ times interocular width ; caudal peduncle not longer than deep . . . . . 3. *A. krefftii*, Blgr., p. 356.

Maxillary barbel a little shorter than head ; length of snout $1\frac{1}{3}$ to $1\frac{1}{2}$ times interocular width; caudal peduncle longer than deep . . . . . 4. *A. platychir*, Gthr., [p. 357.

Maxillary barbel longer than head ; length of snout $1\frac{1}{2}$ times interocular width ; caudal peduncle not longer than deep . . . . . 5. *A. largeri*, Blgr., p. 358.

B. Head longer than broad ; snout obtusely pointed, its length 2 (young) to 3 times interocular width ; base of adipose dorsal not more than $1\frac{1}{2}$ times that of rayed dorsal. [p. 359. 6. *A. longirostris*, Blgr.,

II. Dorsal entirely or partly above the ventrals.

A. Head but slightly longer than broad ; snout broadly rounded ; interocular width $2\frac{1}{2}$–3 times diameter of eye.

Length of head 4–$4\frac{1}{2}$ times in total length ; caudal peduncle a little longer than deep ; caudal forked, with rounded lobes . . . . . [p. 360. 7. *A. atesuensis*, Blgr.,

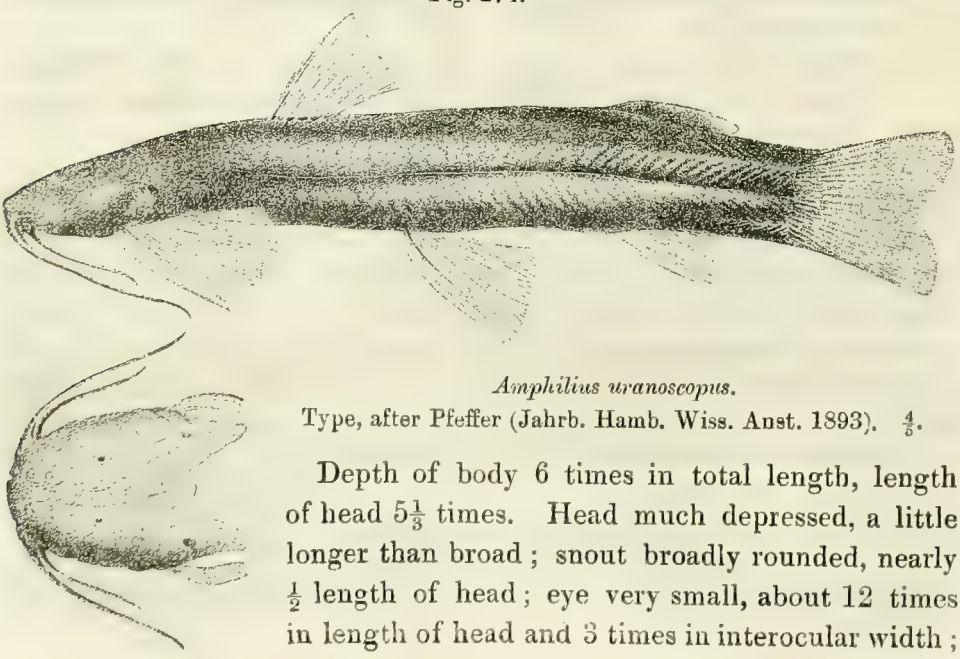
Length of head $3\frac{2}{3}$–$3\frac{3}{4}$ times in total length ; caudal peduncle as long as deep ; caudal feebly emarginate . . . . . 8. *A. brevis*, Blgr., p. 361.

B. Head much longer than broad ; snout obtusely pointed ; interocular width less than diameter of eye . . . . . [p. 362. 9. *A. angustifrons*, Blgr.,

1. AMPHILIUS URANOSCOPUS.

Anoplopterus uranoscopus, Pfeff. Jahrb. Hamb. Wiss. Anst. vi. 2, 1889, p. 16, x. 2, 1893, p. 33, pl. ii. figs. 1 & 2, and Thierw. O.-Afr., Fische, p. 33 (1896).
Amphilius uranoscopus, Bouleng. Proc. Zool. Soc. 1905, i. p. 64.

Fig. 274.



Amphilius uranoscopus.
Type, after Pfeffer (Jahrb. Hamb. Wiss. Anst. 1893). $\frac{4}{5}$.

Depth of body 6 times in total length, length of head $5\frac{1}{3}$ times. Head much depressed, a little longer than broad ; snout broadly rounded, nearly $\frac{1}{2}$ length of head ; eye very small, about 12 times in length of head and 3 times in interocular width ;

posterior nostril midway between eye and end of snout; maxillary barbel longer than head, reaching to midway between head and origin of dorsal, outer mandibular a little shorter than head. Dorsal I 6, much nearer end of snout than root of caudal. Adipose dorsal low, nearly twice as long as rayed dorsal, about half as long as its distance from latter. Anal II 5. Pectoral slightly longer than head. Ventral nearly as long as pectoral, far behind base of dorsal. Caudal feebly emarginate. Caudal peduncle as long as deep. Brown, upper parts clouded with darker.

Total length 150 millim.

Ushonda and Mhonda, Upper ranges of Wami River, German East Africa.—Types in Hamburg Museum.

2. AMPHILIUS GRANDIS.

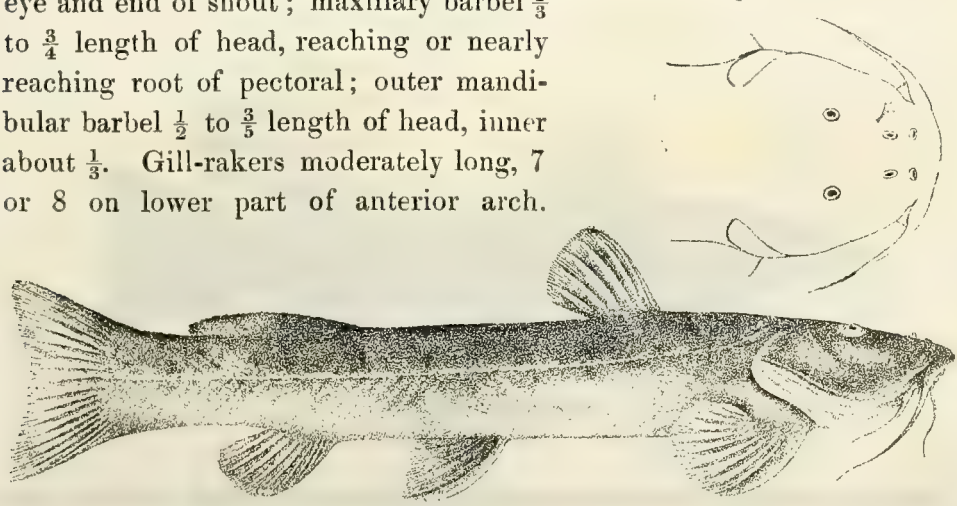
Bouleng. Proc. Zool. Soc. 1905, i. p. 63, pl. vii. fig. 3.

Amphilius leroyi (non Vaill.), Pellegr. Mém. Soc. Zool. France, xvii. 1905, p. 177.

Pimelodus (*Amphilius*) *uranoscopus*, part., Hilgend. Zool. Jahrb., Syst. xxii. 1905, p. 411.

Depth of body $5\frac{1}{2}$ to $6\frac{2}{3}$ times in total length, length of head 4 to $4\frac{2}{3}$ times. Head much depressed, not or but slightly longer than broad; snout broadly rounded, $\frac{1}{2}$ or a little more than $\frac{1}{2}$ length of head; eye very small, 9 to 15 times in length of head, $2\frac{1}{2}$ to $3\frac{1}{2}$ times in interocular width; posterior nostril midway between eye and end of snout; maxillary barbel $\frac{2}{3}$ to $\frac{3}{4}$ length of head, reaching or nearly reaching root of pectoral; outer mandibular barbel $\frac{1}{2}$ to $\frac{3}{5}$ length of head, inner about $\frac{1}{3}$. Gill-rakers moderately long, 7 or 8 on lower part of anterior arch.

Fig. 275.



Amphilius grandis.
Type (P. Z. S. 1905). $\frac{1}{2}$.

Dorsal I 6, mucn nearer end of snout than root of caudal. Adipose dorsal low, 2 to $2\frac{1}{2}$ times as long as rayed dorsal, its length $\frac{2}{3}$ to $\frac{3}{4}$ its distance from latter. Anal III 6–7. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Ventral a little shorter than pectoral, far behind base of dorsal. Caudal feebly emarginate. Caudal peduncle as long as deep. Olive-brown above, uniform or spotted or marbled with darker; fins uniform or dotted with blackish.

Total length 210 millim.

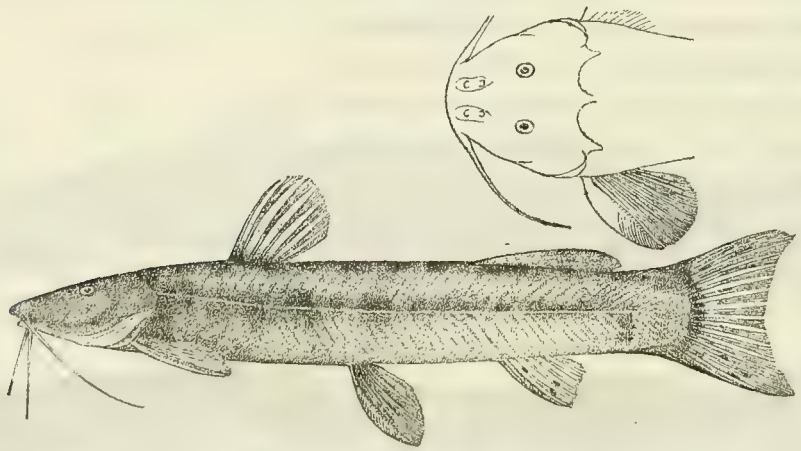
East Africa (Tana to Athi River Systems).

1–3. Types.	Chania R. of Tetse, Tana System, 7000 ft.	S. L. Hinde, Esq. (P.).
4–9. Ad. & hgr.	Nero-Narok System, 4000–5000 ft.	„
10. Skel.	„	„
11–12. Hgr.	Kibosho, Kilimanjaro.	Prof. O. Neumann (C.).
13. Ad.	Nairobi R., Prov. Kikuyu, Athi System.	M. C. Alluaud (C.); Paris Museum (E.).
14–16. Ad. & hgr.	Nairobi R., 3500 ft.	A. Blayney Percival, Esq. (P.).

3. AMPHILIUS KREFFTII, sp. n.

Depth of body $6\frac{1}{2}$ times in total length, length of head $4\frac{1}{2}$ times. Head much depressed, as long as broad; snout broadly rounded, nearly

Fig. 276.



Amphilius kreffiii.
Type.

$\frac{1}{2}$ length of head; eye very small, 8 to 9 times in length of head, 2 to $2\frac{1}{2}$ times in interocular width; posterior nostril a little nearer eye than end of snout; maxillary barbel as long as head, reaching a little beyond

root of pectoral; outer mandibular barbel $\frac{3}{5}$ length of head, inner $\frac{2}{5}$. Gill-rakers rather long, 7 on lower part of anterior arch. Dorsal I 6, much nearer end of snout than root of caudal. Adipose dorsal low, about twice as long as rayed dorsal, its length about $\frac{3}{4}$ its distance from latter. Anal III 5–6. Pectoral slightly shorter than head. Ventral as long as pectoral, far behind base of dorsal. Caudal feebly emarginate. Caudal peduncle as long as deep. Brown above, with more or less distinct blackish spots, whitish beneath; fins greyish, dotted with blackish.

Total length 98 millim.

East Africa (Pangani River System).

1–2. Types. Usambara, in rivulet running down from Anani Hills to Sigi River. Dr. P. Krefft (P.).

4. AMPHILIUS PLATYCHIR.

Pimelodus platychir, Günth. Cat. Fish. v. p. 134 (1864).

Chimarrhoglanis leroyi, Vaill. Bull. Mus. Paris, 1897, p. 82.

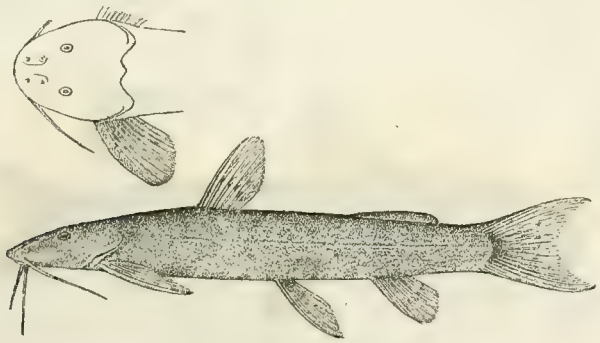
Anoplopterus platychir, Pfeff. Thierw. O.-Afr., Fische, p. 33 (1896); Bouleng. Ann. & Mag. N. H. (7) i. 1898, p. 255, and Trans. Zool. Soc. xv. 1898, p. 24.

Amphilius platychir, Bouleng. Proc. Zool. Soc. 1905, i. p. 64.

Pimelodus (*Amphilius*) *uranoscopus*, part., Hilgend. Zool. Jahrb., Syst. xxii. 1905, p. 411.

Depth of body $5\frac{1}{2}$ to $6\frac{1}{2}$ times in total length, length of head 4 to $4\frac{1}{2}$

Fig. 277.



Amphilius platychir.
Type. $\frac{4}{5}$.

times. Head much depressed, slightly longer than broad; snout broadly rounded, as long as postocular part of head; eye very small, 7 or 8 times in length of head, 2 to $2\frac{1}{2}$ times in interocular width; posterior nostril

a little nearer eye than end of snout; maxillary barbel $\frac{3}{4}$ to $\frac{4}{5}$ length of head, reaching or nearly reaching posterior border of head; outer mandibular barbel $\frac{3}{5}$ to $\frac{2}{3}$ length of head, inner about $\frac{2}{5}$. Gill-rakers moderately long, 7 or 8 on lower part of anterior arch. Dorsal I 6, much nearer end of snout than root of caudal. Adipose dorsal low, about twice as long as rayed dorsal, its length about $\frac{2}{3}$ to $\frac{3}{4}$ its distance from latter. Anal III 6. Pectoral nearly as long as head. Ventral a little shorter than pectoral, far behind base of dorsal. Caudal with crescentic emargination. Caudal peduncle a little longer than deep. Brownish above, uniform or spotted or marbled with darker; dorsal and caudal more or less distinctly spotted with brown.

Total length 85 millim.

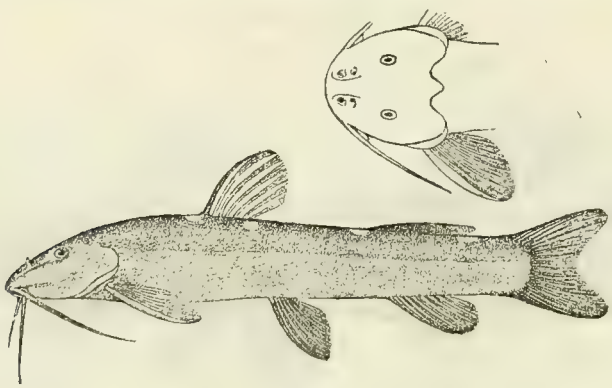
East Africa, westwards to Lakes Tanganyika and Nyassa.

1–4. Types.	Sierra Leone (?).	Dr. A. Günther (P.).
5. Hgr.	Bubu R., German E. Africa.	Prof. O. Neumann (C.).
6–7. Ad.	Marshes near Mbeti, L. Tanganyika.	Prof. J. E. S. Moore (C.).
8–9. Ad.	Between Kondowe and Karonga, L. Nyassa.	A. Whyte, Esq. (C.); Sir H. H. Johnston (P.).
10–12. Hgr. & yg.	R. Ruo, Brit. C. Africa.	„

5. AMPHILIUS HARGERI.

Bouleng. Ann. & Mag. N. H. (7) xx. 1907, p. 488.

Fig. 278.



Amphilius hargeri.
Type. $\frac{4}{3}$.

Depth of body $5\frac{1}{2}$ times in total length, length of head $4\frac{1}{3}$ times. Head much depressed, slightly longer than broad; snout broadly rounded, nearly $\frac{1}{2}$ length of head; eye very small, 9 times in length of

head, 3 times in interocular width; posterior nostril midway between eye and end of snout; maxillary barbel $1\frac{1}{5}$ length of head, outer mandibular $\frac{4}{5}$, inner mandibular $\frac{1}{2}$. Gill-rakers short, 8 on lower part of anterior arch. Dorsal I 6, much nearer end of snout than root of caudal. Adipose dorsal low, twice as long as rayed dorsal, nearly as long as its distance from latter. Anal II 7. Pectoral a little shorter than head. Ventral a little shorter than pectoral, far behind base of dorsal. Caudal emarginate. Caudal peduncle as long as deep. Dark olive above, whitish beneath; five round white spots on the back—one in front of the dorsal fin, one on each side of the last rays of the dorsal, one in front of the adipose fin, and one at the posterior extremity of the latter.

Total length 80 millim.

British Central Africa.

1. Type. Sources of Ruo R., Mlanji, 6500 ft. R. L. Harger, Esq. (P.).

6. AMPHILIUS LONGIROSTRIS.

Anoplopterus longirostris, Bouleng. Ann. & Mag. N. H. (7) viii. 1901, p. 447.

Amphilius longirostris, Bouleng. Proc. Zool. Soc. 1903, i. p. 25, pl. i. fig. 3, and 1905, i. p. 64.

Depth of body 6 to 9 times in total length, length of head $3\frac{2}{3}$ to 4 times. Head much depressed, $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad; snout

Fig. 279.

Amphilius longirostris.
Type (P. Z. S. 1903).

obtusely pointed, about $\frac{3}{5}$ length of head; eye very small, in second half of head, 8 to 10 times in length of head, $1\frac{1}{2}$ to 2 times in interocular width; posterior nostril midway between eye and end of snout;

maxillary barbel about $\frac{2}{3}$ length of head, reaching root of pectoral or not quite so far; outer mandibular barbel $\frac{1}{2}$ to $\frac{2}{3}$ length of head, inner about $\frac{1}{3}$. Gill-rakers moderately long, 5 or 6 on lower part of anterior arch. Dorsal I 6, much nearer end of snout than root of caudal. Adipose dorsal low, 1 to $1\frac{1}{2}$ times as long as rayed dorsal, about half as long as its distance from latter. Anal II 6–7. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Ventral a little shorter than pectoral, far behind base of dorsal. Caudal with crescentic emargination. Caudal peduncle as long as deep or a little longer than deep. Dark olive-brown above, with darker spots or marblings and usually with 4 to 6 more or less distinct large transverse yellowish spots on the back; fins light, with dark spots, which may be disposed in transverse series; caudal usually with two regular blackish bars, or blackish at the base, with a large blackish blotch on each lobe.

Total length 140 millim.

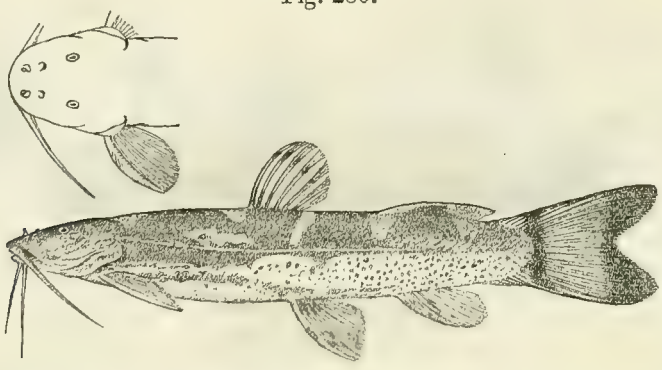
South Cameroon.

1. Type.	Hills in Bulu Country, near Efulen, 1500–2000 ft.	G. L. Bates, Esq. (C.).
2–10. Ad. & hgr.	,,	,,
11. Skel.	,,	,,
12–21. Ad., hgr., & yg.	Kribi R.	,,
22–29. ,,	Lobi R.	,,

7. AMPHILIUS ATESUENSIS.

Amphilius platychir (non Günth. 1864), Günth. Proc. Zool. Soc. 1902, ii. p. 336.
Amphilius atesuensis, Bouleng. Ann. & Mag. N. H. (7) xiv. 1904, p. 17.

Fig. 280.



Amphilius atesuensis.
Type. $\frac{4}{5}$.

Depth of body 5 to 6 times in total length, length of head 4 to $4\frac{1}{2}$

times. Head much depressed, slightly longer than broad; snout broadly rounded, as long as postocular part of head; eye very small, 9 or 10 times in length of head, $2\frac{1}{2}$ to 3 times in interocular width; posterior nostril a little nearer eye than end of snout; maxillary barbel as long as head or a little longer; outer mandibular barbel a little shorter than head, inner about $\frac{3}{5}$ length of head. Gill-rakers moderately long, 7 or 8 on lower part of anterior arch. Dorsal I 5–6, equally distant from end of snout and from root of caudal. Adipose dorsal low, $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as rayed dorsal, its length a little greater than its distance from latter. Anal II 5–6. Pectoral a little shorter than head. Ventral slightly shorter than pectoral, below posterior rays of dorsal. Caudal forked, with rounded lobes. Caudal peduncle a little longer than deep. Brown above, speckled with darker, whitish below; 6 yellowish cross-bars on the back, the first on the nape, the third just behind the dorsal fin; fins whitish, dorsal with a transverse series of small black spots, caudal with a black basal bar and a terminal transverse band of crowded black spots.

Total length 60 millim.

Gold Coast.

1–4. Types. Atesu R. R. B. N. Walker, Esq. (C.); Dr. A. Günther (P.).

8. AMPHILIUS BREVIS.

Bouleng. Proc. Zool. Soc. 1902, i. p. 268, pl. xxix. fig. 3.

Amphilius nigricaudatus, Pellegr. Bull. Soc. Philom. (10) i. 1909, p. 47, fig.

Depth of body 6 to 7 times in total length, length of head $3\frac{2}{3}$ to 4 times. Head much depressed, a little longer than broad; snout broadly rounded, $\frac{1}{3}$ to $\frac{2}{5}$ length of head; eye very small, 9 to 12 times in length of head, $2\frac{1}{2}$ to 3 times in interocular width; maxillary barbel $\frac{2}{3}$ to once

Fig. 281.

Amphilius brevis.
Type (P. Z. S. 1902).

length of head, rarely a little longer than head, scarcely longer than outer mandibular, inner mandibular $\frac{1}{3}$ to $\frac{1}{2}$ length of head. Gill-rakers moderately long, wide apart, 7 or 8 on lower part of anterior arch. Dorsal I 6, equally distant from end of snout and root of caudal, or a

little nearer former. Adipose dorsal low, $1\frac{1}{2}$ to 2 times as long as rayed dorsal, $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as its distance from latter. Anal II 5–6. Pectoral $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Ventral below middle or posterior rays of dorsal. Caudal feebly emarginate. Caudal peduncle as long as deep or a little deeper than long. Brown above, uniform or dotted with black, white beneath; caudal peduncle darker towards base of caudal; fins white, caudal with a large black or blackish blotch, which may be rhomboidal or cruciform.

Total length 62 millim.

Lindi River (Upper Congo), Ogowe, South Cameroon.—Type in Brussels Museum.

1. One of the types.	Lindi R., Congo.	M. M. Storms (C.); Brussels Museum (P.).
2–11. Ad. & hgr.	Efulen, S. Cameroon.	G. L. Bates, Esq. (C.).
12–16. „	Biwomi R., „	„

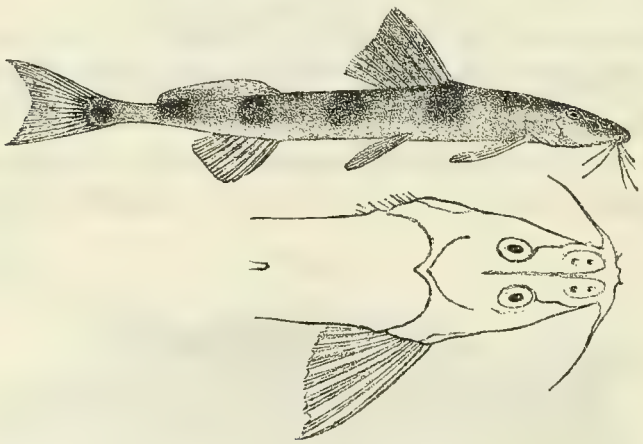
9. AMPHILIUS ANGUSTIFRONS.

Anoplopterus angustifrons, Bouleng. Ann. Mus. Congo, Zool. ii. p. 42, pl. x. fig. 4 (1902).

Amphilius angustifrons, Bouleng. Proc. Zool. Soc. 1905, i. p. 64.

Depth of body 7 to 8 times in total length, length of head 4 to $4\frac{1}{2}$

Fig. 282.



Amphilius angustifrons.
Type (A. M. C.). × 2.

times. Head $1\frac{1}{2}$ times as long as broad; snout obtusely pointed, $\frac{1}{2}$ length of head; eye moderately large, 6 times in length of head, its

diameter greater than interorbital width; posterior nostril midway between eye and end of snout; maxillary barbel about $\frac{1}{2}$ length of head, outer mandibular $\frac{2}{3}$. Dorsal I 7, much nearer end of snout than root of caudal. Adipose dorsal low, about $1\frac{1}{2}$ times as long as rayed dorsal, nearly as long as its distance from latter. Anal II 7. Pectoral $\frac{3}{4}$ length of head. Ventral a little shorter than pectoral, below posterior half of dorsal. Caudal with crescentic notch. Caudal peduncle more than twice as long as deep. Olive above, with 4 or 5 blackish bars, the last at base of caudal.

Total length 45 millim.

Ubanghi.—Types in Congo Museum, Tervueren.

1–2. Types.	Banzyville.	Capt. Royaux (C.).

21. PARAMPHILIUS.

Pellegr. Bull. Mus. Paris, 1907, p. 23.

Closely related to the preceding. Distinguished by the position of the posterior nostril, which is close to the eye, and by the confluence of the adipose dorsal fin with the caudal.

A single species.

1. PARAMPHILIUS TRICHOMYCTEROIDES.

Pellegr. t. c. p. 24.

Depth of body 7 times in total length, length of head 5 times. Head longer than broad; snout semicircular; eye very small, at the second third of the length of the head; anterior nostril midway between eye and end of snout; interorbital width $\frac{1}{3}$ length of head; maxillary and outer mandibular barbels a little longer than head, inner mandibular a little shorter. Dorsal I 6, equally distant from end of snout and from root of caudal. Adipose dorsal long and low. Anal III 9. Pectoral $\frac{3}{4}$ length of head. Ventral slightly shorter than pectoral, below anterior rays of dorsal. Caudal truncate. Caudal peduncle a little longer than deep. Uniform olive above, yellowish beneath.

Total length 56 millim.

Ditinn, Upper Senegal, 3200 feet.—Type in Paris Museum.

22. PARAUCHENOGLANIS, g. n.

Body moderately elongate, feebly compressed. Dorsal and anal fins short, the former composed of a spine and 7 branched rays, and followed by a long adipose fin. Pectoral fin with a spine. Ventral fin with 6 rays, inserted below the dorsal fin. Three pairs of barbels: maxillary and two mandibulars. Nostrils widely separated from each other, the anterior tubular, on the upper lip, the posterior slit-like. Eye superior, without free border. Maxillary bone rather large, hidden in the lip but bordering the mouth; jaws with a large band of villiform teeth. Gill-membranes free, deeply notched. Air-bladder large, free.

Vertebræ 39 (16+23). 10 branchiostegal rays.

Cameroon, Gaboon.

Two species:—

Outer mandibular barbel not reaching beyond middle of pectoral fin . . . . . 1. *P. guttatus*, Lönnb., p. 364.

Outer mandibular barbel reaching extremity of pectoral fin . . . . . 2. *P. macrostoma*, Pellegr., p. 365.

1. PARAUCHENOGLANIS GUTTATUS.

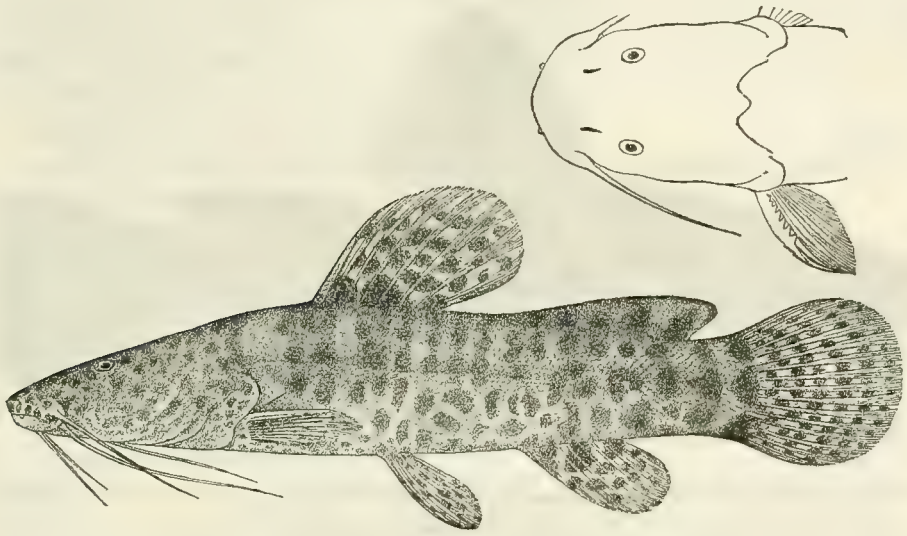
Pimelodus guttatus, Lönnb. Öfvers. Vet.-Akad. Förh. Stockholm, 1895, no. 3, p. 184.

Auchenoglanis guttatus, Bouleng. Ann. Mus. Congo, Zool. ii. p. 40 (1902).

Depth of body 5 to 6 times in total length, length of head $3\frac{1}{4}$ to $3\frac{1}{2}$ times. Head much depressed, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, its upper surface smooth; snout broadly rounded, $\frac{2}{5}$ length of head; occipital process small, longer than broad, not reaching the feebly developed interneural plate; eye superior, 7 to 10 times in length of head, $2\frac{1}{2}$ to 3 times in interorbital width; mouth broad, terminal; præmaxillary teeth forming a long and broad crescentic band. Maxillary barbel $\frac{3}{5}$ to $\frac{3}{4}$ length of head, inner mandibular $\frac{2}{5}$ to $\frac{3}{5}$, outer mandibular nearly as long as head or a little longer, reaching base or middle of pectoral fin. Gill-rakers rather long and widely set, 10 or 11 on lower part of anterior arch. Humeral process small, pointed, smooth. Dorsal I 7; spines smooth, $\frac{2}{5}$ to $\frac{1}{2}$ length of head. Adipose dorsal 4 to 6 times as long as deep, 2 to 3 times as long as its distance from rayed dorsal. Anal 11–12 (7–8 rays branched). Pectoral not reaching ventral; spine

strong, strongly serrated on inner side. Ventral not reaching anal. Caudal rounded. Yellowish olive to brown above, with round blackish spots, which may form more or less regular transverse series on the

Fig. 283.



Parauchenoglanis guttatus.
Nyong R. $\frac{5}{6}$.

body; young brown with yellowish cross-bars, in addition to the dark spots; fins with round blackish spots.

Total length 245 millim.

Cameroon.—Type in Stockholm Museum.

1–8. Ad., hgr., & yg.	Kribi R., S. Cameroon.		G. L. Bates, Esq. (C.).
9–11. Hgr. & yg.	Nyong R.,	,,	,,
12–18. Ad., hgr., & yg.	Ja R.,	,,	,,
19. Skel.	,,	,,	,,

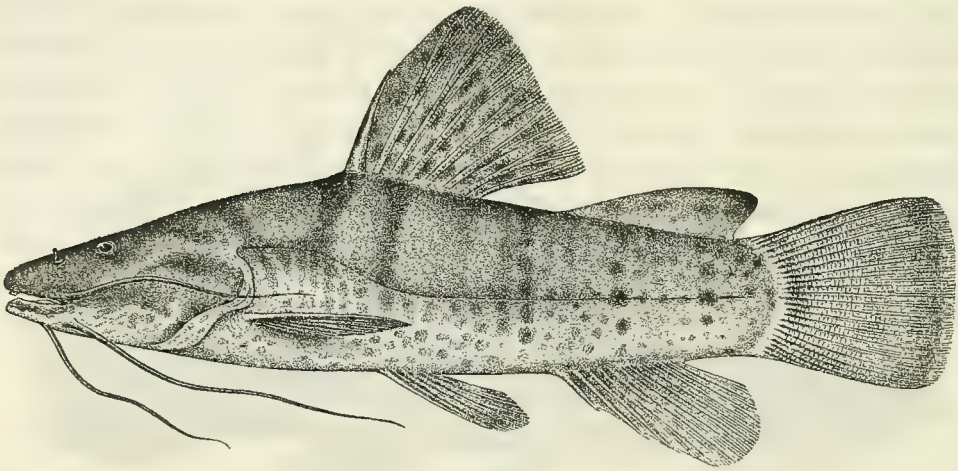
2. PARAUCHENOGLANIS MACROSTOMA.

Auchenoglanis macrostoma, Pellegr. Bull. Soc. Philom. (10) i. 1909, p. 48, fig.

Depth of body $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{3}$ times. Head as in the preceding, but barbels longer, maxillary and inner mandibular as long as head, outer mandibular much longer and reaching extremity of pectoral fin. Dorsal I 7; spine smooth, $\frac{2}{5}$ length of head. Adipose dorsal nearly 4 times as long as deep, about twice as long as its distance from rayed dorsal. Anal 12 (9 rays branched). Pectoral not reaching ventral; spine strong, serrated on inner side. Ventral not

reaching anal. Caudal rounded. Brown above, yellow beneath, with small dark spots; five transverse series of more or less confluent black spots on the body; dorsal and anal with small black spots.

Fig. 284.



Parauchenoglanis macrostoma.
Type, after Pellegrin (*l. c.*). $\frac{1}{2}$.

Total length 240 millim.
Ogowe.—Type in Paris Museum.

23. AUCHENOGLANIS.

Auchenaspis (non Egerton), Bleek. Nederl. Tijdschr. Dierk. i. 1863, p. 101; Günth. Cat. Fish. v. p. 137 (1864).

Auchenoglanis, Günth. Zool. Rec. i. p. 165 (1865); Bouleng. Poiss. Bass. Congo, p. 294 (1901), and Fish. Nile, p. 344 (1907).

Oxyglanis, Vincig. Ann. Mus. Genova, (2) xix. 1898, p. 249.

Body moderately elongate, feebly compressed. Dorsal and anal fins short, the former composed of a spine and 7 or 8 branched rays, and followed by a very long adipose fin. Pectoral fin with a spine. Ventral fin with 6 rays, just behind the vertical of the dorsal fin. Three pairs of barbels: maxillary and two mandibulars. Nostrils widely separated from each other, the anterior tubular, on the upper lip, the posterior slit-like. Eye supero-lateral, with free border. Præmaxillaries small; maxillaries, hidden in the lip, comparatively large, bordering the mouth. Jaws with villiform teeth, which may be reduced to small groups; palate toothless. Gill-membranes free, feebly notched. Air-bladder large, free.

Vertebræ 43–48 (18–21+25–27). 9 branchiostegal rays. Intestinal canal much elongate and forming numerous convolutions.

Nile and Tropical Africa.

Synopsis of the Species.

I. Occipital process and interneural plate large, granulate like the head.

Snout $\frac{1}{2}$ or slightly more than $\frac{1}{2}$ length of head; maxillary barbel more than $\frac{1}{2}$ length of head, reaching beyond posterior border of eye, not much shorter than outer mandibular . . . 1. *A. biscutatus*, I. Geoffr., [p. 367.

Snout usually more than $\frac{1}{2}$ length of head; maxillary barbel $\frac{1}{3}$ to a little over $\frac{1}{2}$ length of head, not extending beyond eye, usually shorter than outer mandibular . . . . . 2. *A. occidentalis*, C. & V., [p. 369.

II. Occipital process and interneural plate narrow, often indistinct under the skin.

A. Occipital process in contact with interneural plate; maxillary barbel not more than $\frac{1}{2}$ length of head.

Longest dorsal rays $\frac{1}{2}$ length of head . . . . 3. *A. ngamensis*, Blgr., p. 371.

Longest dorsal rays a little longer than head . . 4. *A. altipinnis*, Blgr., p. 372.

B. Occipital process not in contact with interneural plate.

Maxillary barbel $\frac{1}{2}$ to $\frac{3}{4}$ length of head, more than $\frac{1}{2}$ as long as outer mandibular; eye 7–10 times in length of head . . . . . 5. *A. ballayi*, Sauv., p. 373.

Maxillary barbel $\frac{1}{2}$ length of head, not $\frac{1}{2}$ as long as outer mandibular; eye 6 times in length of head . . . . . 6. *A. ubangensis*, Blgr., p. 375.

Maxillary barbel as long as head, a little shorter than outer mandibular; eye 6 times in length of head . . . . . 7. *A. punctatus*, Blgr., p. 376.

1. AUCHENOGLANIS BISCUTATUS.

Pimelodus biscutatus, I. Geoffr. Descr. Egypte, Poiss. p. 301, pl. xiv. fig. 1 (1827); Cuv. & Val. Hist. Poiss. xv. p. 197 (1840).

Douq Majeq, Rifaud, Voy. Egypte, pl. cxciii. no. 35 (1830).

Auchenaspis biscutatus, Bleek. Nederl. Tijdschr. Dierk. i. 1863, p. 101.

Auchenaspis biscutatus, part., Günth. Cat. Fish. v. p. 137 (1864), and Petherick's Trav. ii. p. 232 (1869).

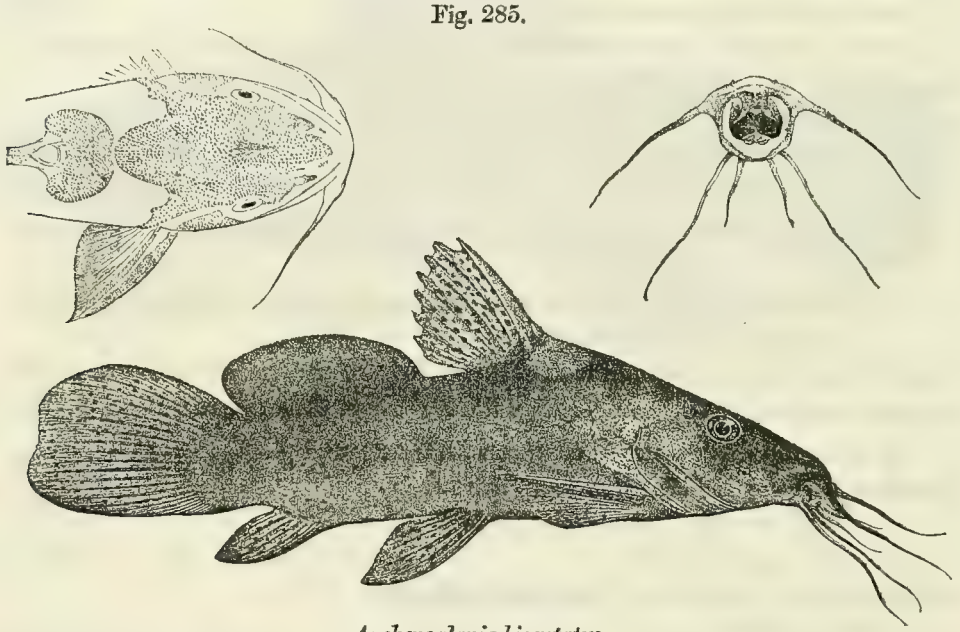
Auchenoglanis biscutatus, part., Bouleng. Poiss. Bass. Congo, p. 296 (1901).

Auchenoglanis biscutatus, Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 263, and Fish. Nile, p. 344, pl. lxii. (1907).

Depth of body $3\frac{1}{2}$ to 5 times in total length, length of head $2\frac{2}{3}$ to $3\frac{1}{4}$

times. Head moderately depressed, $1\frac{2}{5}$ to $1\frac{2}{3}$ times as long as broad, its upper surface and the operculum rough with granular asperities and covered with a very thin skin; occipital process rounded, as long as broad or broader than long, in contact with or narrowly separated from a large, granulate interneural shield; snout pointed, $\frac{1}{2}$, or slightly more than $\frac{1}{2}$, length of head (measured to base of occipital process); eye supero-lateral, $2\frac{1}{2}$ (young) to $4\frac{1}{2}$ times in length of the snout, 5 (young)

Fig. 285.



Auchenoglanis biscutatus.
Gondokoro (F. N.). $\frac{1}{3}$.

to $8\frac{1}{2}$ times in length of head, $1\frac{2}{3}$ (young) to 3 times in interorbital width; mouth small, nearly terminal, with thick papillose lips; præmaxillary teeth in two small, oval or pyriform longitudinal groups, close together. Maxillary barbel $\frac{5}{9}$ to $\frac{4}{5}$ length of head, reaching more or less behind posterior border of eye; outer mandibular barbel as long as or a little longer than maxillary, more than twice as long as inner mandibular, which is inserted on lower lip. Gill-rakers rather long and widely set, 9–11 on lower part of anterior arch. Humeral process small, acutely pointed, granulate. Dorsal I 7; spine strong, with granular asperities in front, $\frac{1}{2}$ to $\frac{3}{5}$ length of head. Adipose dorsal $2\frac{1}{2}$ to 3 times as long as deep, 2 to $2\frac{1}{3}$ times as long as rayed dorsal, from which it is separated by a space equal to $\frac{1}{5}$ to $\frac{1}{3}$ its own length, extending nearly to root of caudal. Anal 10–12 (6 or 7 rays branched). Pectoral reaching or nearly reaching ventral, spine very strong, granulate on outer side, with

10 (young) to 20 strong serræ on inner side. Ventral equally distant from anterior or posterior border of eye and from root of caudal, reaching, or nearly reaching, anal. Caudal rounded, obliquely truncate, or feebly emarginate. Brown, olive, or dark green, uniform or with small round blackish spots, which may be numerous or few and scattered, or confined to the fins; the spots smallest, and often mere dots, on the rayed fins; the spots on the body large in the very young. Lower parts white.

Total length 350 millim.

Lower Nile to Bahr-el-Gebel; Chad Basin; Niger; Calabar.—Type in Paris Museum.

1. Yg.	Goz-abu-Gumah, White Nile.	L. Loat, Esq. (C.).
2–11. Ad., hgr., & yg.	Fashoda, „	„
12. Hgr.	Tonga, „	„
13. Ad.	Mouth of L. No, „	„
14–23, 24–33. Ad., hgr., & yg.	Gondokoro, Bahr-el-Gebel.	„
34. Hgr.	Kano, Hadeija R., Chad Basin.	Capt. G. B. Gosling (P.).
35. Hgr.	Mureji, Upper Niger.	J. S. Budgett, Esq. (P.).
36. Yg.	Cross R. district, Old Calabar.	Major W. A. C. Cockburn (P.).

2. AUCHENOGLANIS OCCIDENTALIS.

Pimelodus occidentalis, Cuv. & Val. Hist. Poiss. xv. p. 203 (1840).

Auchenaspis biscutatus, part., Günth. Cat. Fish. v. p. 137 (1864).

Auchenaspis biscutatus, Steind. Sitzb. Ak. Wien, lx. i. 1870, p. 993, pl. vi. figs. 3 & 4.

Oxyglanis sacchii, Vincig. Ann. Mus. Genova, (2) xix. 1898, p. 250.

Auchenoglanis biscutatus, part., Bouleng. Poiss. Bass. Congo, p. 296 (1901).

Auchenoglanis occidentalis, Bouleng. Ann. & Mag. N. H. (7) x. 1902, p. 263, and Fish. Nile, p. 347, pl. lxiii. (1907).

Auchenoglanis occidentalis, var. *tanganicanus*, Bouleng. Tr. Zool. Soc. xvii. 1906, p. 553, pl. xxxiii.

Auchenoglanis occidentalis, var. *tchadiensis*, Pellegr. Bull. Mus. Paris, 1909, p. 244.

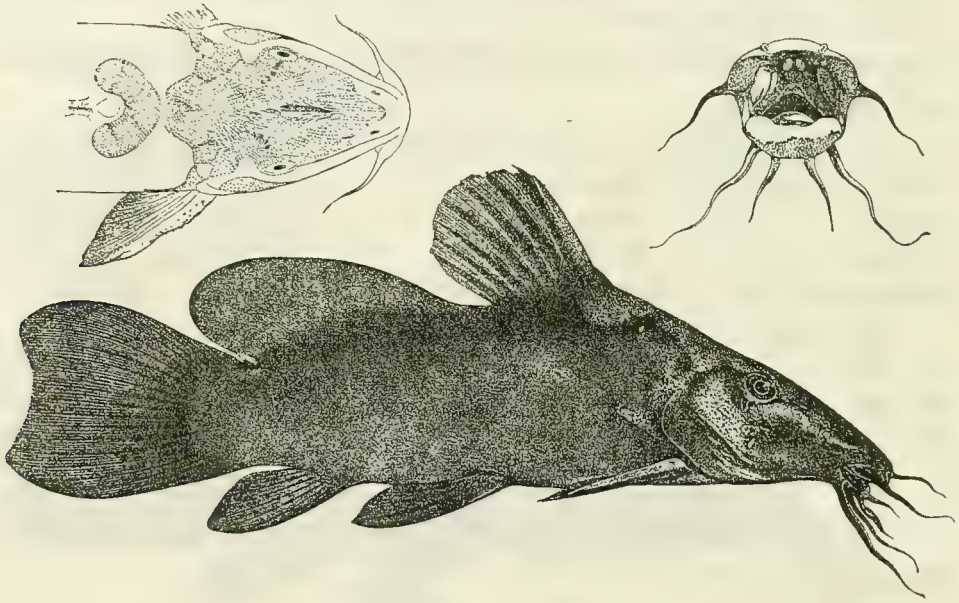
Very nearly allied to the preceding, but distinguished by the longer and more pointed snout, which measures usually more than half length of head, and 3 (young) to 8 times diameter of eye; maxillary barbel always shorter than outer mandibular, $\frac{1}{3}$ to a little over $\frac{1}{2}$ length of head, not extending beyond posterior border of eye. Adipose fin often deeper behind than in *A. biscutatus* and its outline ascending more gradually. Olive or brown, uniform or spotted with dark brown or blackish; these spots, when present, larger than in *A. biscutatus*, often very large on the

dorsal and caudal fins, where they are separated by a narrow network of the pale ground-colour.

Total length 510 millim.

Lower Nile to Blue Nile and Bahr-el-Gebel; Lake Rudolf; Lake Chad, Senegal; Niger; Congo; Lakes Tanganyika, Mweru, and Bangwelu.—Type in Paris Museum.

Fig. 286.



Auchenoglanis occidentalis.
Mouth of L. No (F. N.). ¼.

1. Yg.	Near Luxor.	L. Loat, Esq. (P.).
2. Yg.	Between Luxor and Assuan.	,,
3–4. Yg.	Kosheh, Nubia.	,,
5–9. Hgr. & yg.	Khartum.	J. Petherick, Esq. (C.).
10–11. Hgr.	Omdurman.	L. Loat, Esq. (C.).
12–13. Ad.	Wad Medine, Blue Nile.	,,
14–15. Yg.	Goz-abu-Gumah, White Nile.	,,
16. Ad.	Gharb-el-Aish, ,,	,,
17–18. Ad. & hgr.	Fashoda, ,,	,,
19. Ad.	Mouth of L. No, ,,	,,
20–24. Ad. & hgr.	Gondokoro, Bahr-el-Gebel.	,,
25. Head of ad., dry.	L. Chad.	Capt. G. B. Gosling (P.).
26–28. Yg.	Fort Lamy, Shari R.	,,
29. Ad.	Kaëdi, Senegal.	M. P. Delhez (C.).
30. Ad., stuffed.	Senegal.	
31–32. Ad. & hgr.	McCarthy Id., Gambia.	J. S. Budgett, Esq. (P.).
33. Ad.	Mureji, Upp. Niger.	,,

34. Hgr.	Oguta, Low. Niger.	Dr. W. J. Ansorge (C.).
35–37. Yg.	Abo, „	„
38. Yg.	Agberi, „	„
39. Yg.	Assay, „	„
40. Ad.	Niger.	Mr. J. T. Dalton (C.).
41. Skel.	„	„
42. Hgr.	Benue R., north of Ibi.	H. L. Norton Traill, Esq. (C.).
43. Yg.	Near Leopoldville, Congo.	Drs. Dutton, Christy, & Todd (P.).
44. Yg.	Sankuu R. at Kondue, Kasai, Congo.	M. E. Luja (C.).
45, 46–49. Ad. & hgr.	Monsembe, Upp. Congo.	Rev. J. H. Weeks (P.).
50. Ad.	Bikoro, L. Tumba, Upp. Congo.	M. P. Delhez (C.).
51. Skin.	L. Mweru.	Sir A. Sharpe (P.).
52. Hgr.	L. Bangwelu.	F. H. Melland, Esq. (P.).
53–54. Yg.	Kinyamkolo, L. Tanganyika.	Prof. J. E. S. Moore (C.).
55. Ad.	Middle of L. Tanganyika.	„
56–57. Ad.	Kalombo, „	„
58. Hgr.	Mtondwe Bay, „	Dr. W. A. Cunnington (C.).

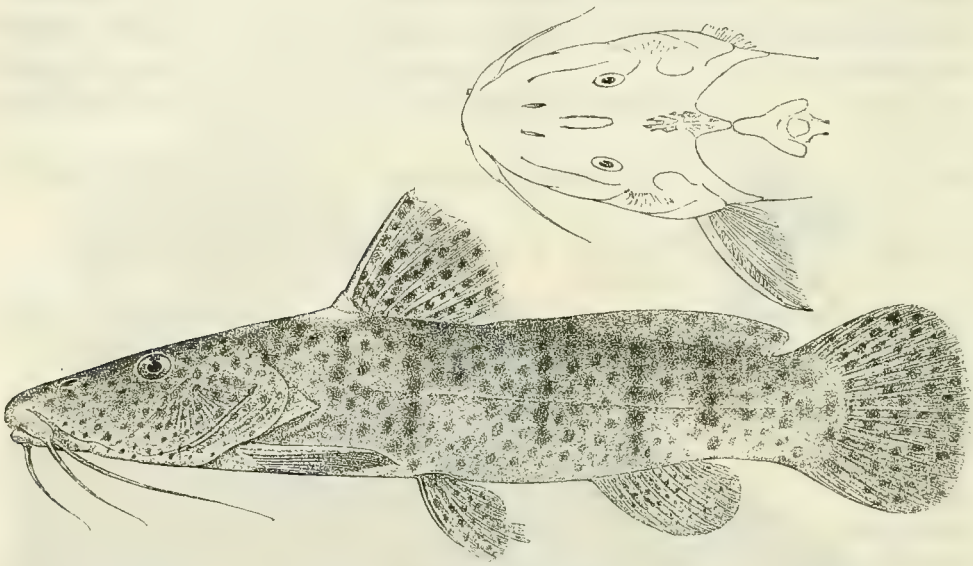
3. AUCHENOGLANIS NGAMENSIS, sp. n.

Depth of body $5\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ times. Head moderately depressed, $1\frac{1}{2}$ times as long as broad, upper surface smooth; operculum with radiating striæ; occipital process small, longer than broad, in contact with the moderately large interneural plate; snout pointed, $\frac{1}{2}$ length of head; eye supero-lateral, 8 times in length of head, twice in interorbital width; mouth small, nearly terminal, with thick papillose lips; præmaxillary teeth in a small patch a little broader than long, with notched posterior border. Maxillary and inner mandibular barbels $\frac{1}{2}$ length of head; outer mandibular slightly shorter than head, reaching base of pectoral fin. Gill-rakers rather long, 8 on lower part of anterior arch. Humeral process short, triangular, feebly striated. Dorsal I 7; spine moderately strong, smooth, $\frac{1}{2}$ length of head, as long as longest soft rays. Adipose dorsal 9 times as long as deep, originating immediately behind rayed dorsal and extending nearly to root of caudal. Anal 13 (8 rays branched). Pectoral not reaching ventral; spine strong, strongly serrated on inner side. Ventral not reaching anal. Caudal rounded. Olive-brown, with numerous small round black spots, some of which form vertical bars on the sides of the body; belly white.

Total length 220 millim.

Lake Ngami district, Bechuanaland.

Fig. 287.



Auchenoglanis ngamensis.

Type. $\frac{5}{8}$.

1. Type. Okovango R., near L. Ngami. R. B. Woosnam, Esq. (C.).

4. AUCHENOGLANIS ALTIPINNIS, sp. n.

Depth of body $4\frac{2}{3}$ times in total length, length of head $3\frac{2}{3}$ times. Head moderately depressed, $1\frac{1}{3}$ times as long as broad, upper surface smooth; operculum with radiating striæ; occipital process small, longer than broad, in contact with the moderately large interneural plate; snout pointed, a little more than $\frac{1}{2}$ length of head; eye supero-lateral, 7 times in length of head, twice in interorbital width; mouth small, nearly terminal, with thick papillose lips; præmaxillary teeth in a small reniform patch. Maxillary barbel $\frac{2}{5}$ length of head, inner mandibular $\frac{1}{3}$, outer mandibular a little shorter than head and reaching base of pectoral fin. Gill-rakers rather long, 9 on lower part of anterior arch. Humeral process narrow, pointed, feebly striated. Dorsal I 7; spine moderately strong, smooth, $\frac{2}{3}$ length of head; longest soft rays slightly longer than head. Adipose dorsal 6 times as long as deep, originating immediately behind rayed dorsal and extending nearly to root of caudal. Anal 13 (8 rays branched). Pectoral not reaching ventral; spine strong, strongly serrated on inner side. Ventral nearly reaching anal. Caudal rounded.

Brown above, with ill-defined large round darker spots above the lateral line and a longitudinal dark band below it; belly whitish, rayed fins without spots.

Fig. 288.

Auchenoglanis altipinnis.
Type. $\frac{5}{8}$.

Total length 210 millim.

South Cameroon (Ja River, Congo System).

1. Type. Ja R. at Esamesa. G. L. Bates, Esq. (C.).

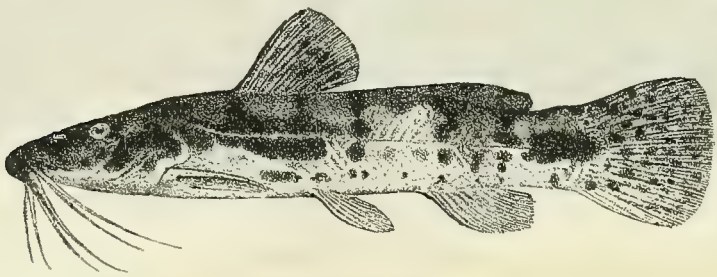
5. AUCHENOGLANIS BALLAYI.

Pimelodus balayi, Sauv. Bull. Soc. Philom. (7) iii. 1878, p. 98, and N. Arch. Mus. (2) iii. 1880, p. 44; Vaill. Bull. Soc. Philom. (8) vi. 1894, p. 77.
Pimelodus guirali, Thomin. Bull. Soc. Philom. (7) x. 1886, p. 162.
Auchenoglanis ballayi, Bouleng. Poiss. Bass. Congo, p. 295 (1901).
Auchenoglanis pulcher, Bouleng. Proc. Zool. Soc. 1902, i. p. 267, pl. xxix. fig. 2.

Depth of body 4 to $5\frac{1}{2}$ times in total length, length of head 3 to $3\frac{1}{2}$ times. Head moderately depressed, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, its upper surface smooth or feebly rugose; operculum with more or less distinct radiating striæ; occipital process small, longer than broad, narrowly but distinctly separated from the feebly developed interneural plate; snout pointed, $\frac{1}{2}$ or a little more than $\frac{1}{2}$ length of head; eye supero-lateral, 7 to 10 times in length of head, 2 to 3 times in inter-orbital width; mouth small, nearly terminal, with thick papillose lips;

præmaxillary teeth in a small reniform group. Maxillary barbel $\frac{1}{2}$ to $\frac{3}{4}$ length of head, inner mandibular $\frac{1}{3}$ to $\frac{1}{2}$, outer mandibular as long as head or a little shorter, reaching base of pectoral fin. Gill-rakers rather long and widely set, 8 or 9 on lower part of anterior arch. Humeral process narrow, pointed, smooth or striated. Dorsal I 7; spine moderately strong, smooth or with very feeble retrorse serræ on anterior side of distal third, $\frac{1}{2}$ to $\frac{3}{5}$ length of head; longest rays shorter than head. Adipose dorsal 4 to 6 times as long as deep, as long as or much longer than its distance from rayed dorsal, not extending to root of caudal. Anal 11–12 (7–8 rays branched). Pectoral not reaching ventral; spine strong, strongly serrated on inner side. Ventral not reaching anal.

Fig. 289.



Auchenoglanis ballayi.
Young, type of *A. pulcher* (P. Z. S. 1902).

Caudal rounded. Brown or olive, with round blackish spots, white beneath; the spots forming regular transverse series in the young; an elongate blackish blotch may be present on each side above the pectoral; dorsal and caudal fins with small round blackish spots.

Total length 350 millim.

Cameroon, Gaboon, Congo.—Type in Paris Museum.

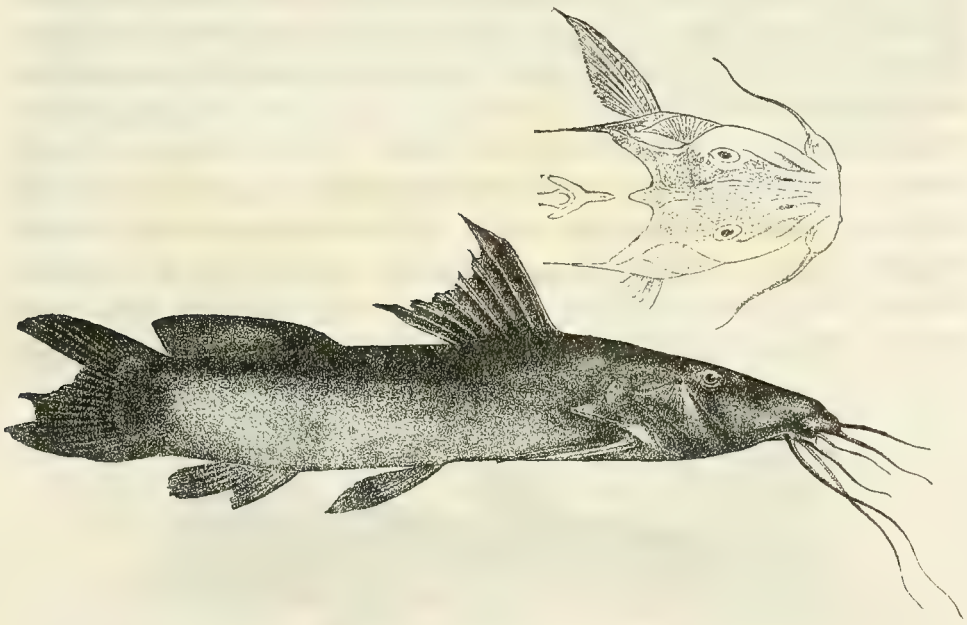
1, 2–5. Ad. & yg.	Kribi R., S. Cameroon.	G. L. Bates, Esq. (C.).
6, 7. Skels.	,,	,,
8. Yg.	Zima Country, S. Cameroon.	,,
9. Hgr.	Nyong R., ,,	,,
10–11. Yg.	Ja R. at Bitye, ,,	,,
12. Ad.	Ja R. at Esamesa, ,,	,,
13. Yg.	Ngomo, Ogowe.	Rev. E. Haug (C.); Paris Museum (E.).
14. Yg.	Abanga R., Ogowe.	Dr. W. J. Ansorge (C.).
15–16. Yg., types of *A. pulcher*.	Lindi R., Upper Congo.	M. M. Storms (C.); Brussels Museum (P.).

6. AUCHENOGLANIS UBANGENSIS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 41, pl. xi. fig. 3 (1902).

Depth of body 5 times in total length, length of head $3\frac{1}{2}$ times. Head $1\frac{1}{3}$ times as long as broad, feebly rugose above; snout pointed, half length of head; occipital process small, longer than broad, not reaching the feebly developed interneural plate; eye supero-lateral, 6 times in length of head, 2 times in interorbital width; mouth half

Fig. 290.



Auchenoglanis ubangensis.
Type (A. M. C.). $\frac{3}{4}$.

width of head; præmaxillary teeth forming a small reniform group. Maxillary and inner mandibular barbels equal, $\frac{1}{2}$ length of head; outer mandibular $1\frac{1}{3}$ times length of head, nearly reaching extremity of pectoral fin. Humeral process small, pointed, striated. Dorsal I 7; spine smooth, with a few very feeble retrorse serræ on the anterior border near the extremity, $\frac{1}{2}$ length of head. Adipose dorsal 4 times as long as deep, separated from rayed dorsal by a space equal to $\frac{2}{3}$ its length, narrowly separated from caudal. Anal 12 (8 rays branched). Pectoral not reaching ventral, spine strong, smooth on outer side, with

rather strong serræ on inner side. Ventral not reaching anal. Caudal rounded (?). Dark brown above, whitish beneath.

Total length 165 millim.

Ubanghi.—Type in Congo Museum, Tervueren.

7. AUCHENOGLANIS PUNCTATUS.

Bouleng. Proc. Zool. Soc. 1902, i. p. 267, pl. xxix. fig. 1.

Depth of body 5 times in total length, length of head 3 times. Head smooth, $1\frac{1}{3}$ times as long as broad; snout pointed, $\frac{1}{2}$ length of head; eye 6 times in length of head, hardly twice in interocular width; width of mouth more than half that of the head; lips wide, papillose; præmaxillary teeth forming a short and narrow band, the mandibulars two rounded groups; maxillary barbel as long as head, reaching middle of pectoral spine; outer mandibular barbel $1\frac{1}{3}$ times length of head, inner $\frac{1}{2}$; occipital process small, as long as eye, separated from the interneural shield, which is very small. Humeral process small, pointed. Dorsal I 7; spine smooth, $\frac{2}{5}$ length of head. Adipose dorsal 4 times as long as deep, nearly reaching caudal, narrowly separated from rayed dorsal. Pectoral spine half as long as head, its inner edge strongly

Fig. 291.

Auchenoglanis punctatus.
Type (P. Z. S. 1902).

serrated. Ventral not reaching anal. Anal 10 (7 rays branched). Caudal rounded. Pale brownish, with seven indistinct darker bars, each accompanied by a vertical series of black dots; belly white; dorsal and caudal fins with transverse series of dark spots.

Total length 80 millim.

Lindi River, Upper Congo.—Type in Brussels Museum.

24. NOTOGLANIDIUM.

Günth. Proc. Zool. Soc. 1902, ii. p. 336.

Body moderately elongate, feebly compressed. Dorsal and anal fins rather long, the former composed of a spine and 14 or 15 branched rays, and followed by a very long adipose fin which extends to the caudal. Ventral fin with 6 rays, inserted below the posterior part of the dorsal. Three pairs of barbels: maxillary and two mandibulars. Nostrils widely separated from each other, the anterior tubular and on the upper lip, the posterior slit-like. Eye superior, without free border. Præmaxillaries small; maxillaries rather long, hidden in the much developed, papillose lip; jaws with villiform teeth; palate toothless. Gill-membranes feebly notched, narrowly attached to isthmus.

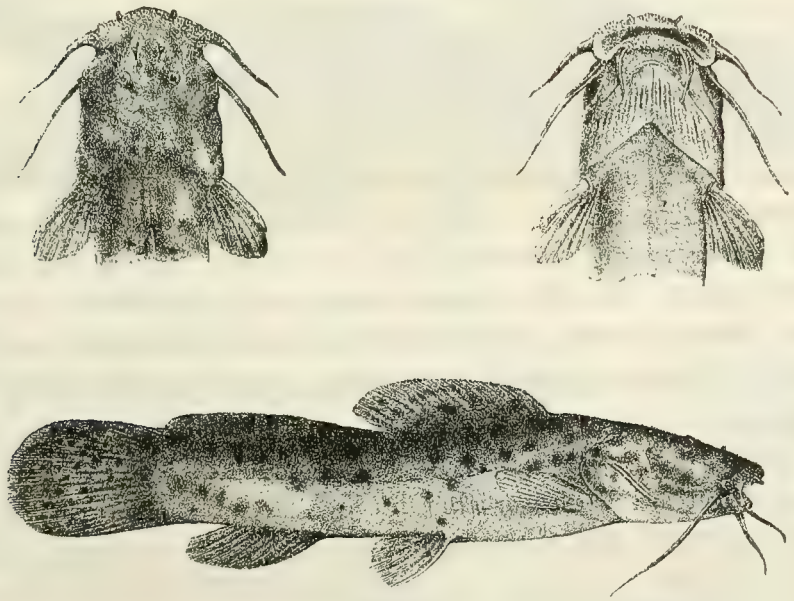
Gold Coast.

1. NOTOGLANIDIUM WALKERI.

Günth. t. c. p. 337, pl. xxxii.

Depth of body 5 times in total length, length of head $3\frac{1}{2}$ times.

Fig. 292.



Notoglanidium walkeri.
Type, after Günther (P. Z. S. 1902). $\frac{2}{3}$.

Head rather strongly depressed, $1\frac{1}{4}$ times as long as broad, smooth above; snout obtusely pointed, a little shorter than postocular part of

head; no occipital process; posterior nostril nearer eye than end of snout; eye small, 9 times in length of head, $3\frac{1}{2}$ times in interocular width. Maxillary barbel $\frac{3}{5}$ length of head, inner mandibular $\frac{1}{2}$, outer mandibular nearly as long as head. Præmaxillary teeth forming a reniform group. Gill-rakers few, wide apart. Dorsal I 14–15, rather low, a little nearer end of snout than root of caudal; spine short and smooth, $\frac{1}{5}$ length of head. Adipose dorsal low, originating at a short distance from the rayed dorsal. Anal 11–12 (9 rays branched). Pectoral $\frac{3}{5}$ length of head; spine strong, not quite $\frac{1}{2}$ length of head, with a few retrorse serræ on both sides. Ventral midway between end of snout and root of caudal. Caudal rounded. Reddish brown, darker on the back, with round dark brown spots; smaller spots on the dorsal and caudal fins.

Total length 120 millim.

Gold Coast.

1–2. Types.	Ibbi R.	R. B. N. Walker, Esq. (C.); Dr. A. Günther (P.).

25. ANCHARIUS.

Steind. Sitzb. Ak. Wien, lxxxii. i. 1880, p. 251; Sauv. Hist. Madag., Poiss. p. 478 (1891).

Body moderately elongate, feebly compressed. Dorsal and anal fins short, the former composed of a spine and 7 branched rays, and followed by a rather long adipose fin. Ventral fins with 6 rays, well behind the dorsal. Three pairs of barbels: maxillary and two mandibulars. Nostrils rather widely separated from each other. Eye supero-lateral, with free border. Mouth moderately large, with broad bands of small, setiform, bicuspid teeth; palate toothless. Gill-membranes narrowly attached to isthmus, not notched, forming a continuous transverse fold.

Madagascar.

Two species:—

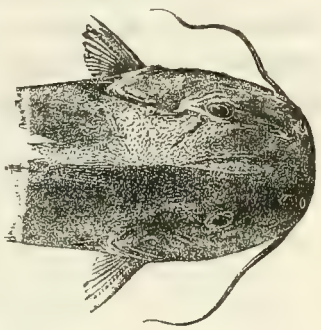
Maxillary barbel a little longer than head, reaching beyond base of pectoral; latter reaching ventral	1. *A. fuscus*, Stdr., p. 379.
Maxillary barbel $\frac{1}{2}$ length of head, not reaching base of pectoral; latter not reaching ventral	2. *A. brevibarbis*, Blgr., p. 380.

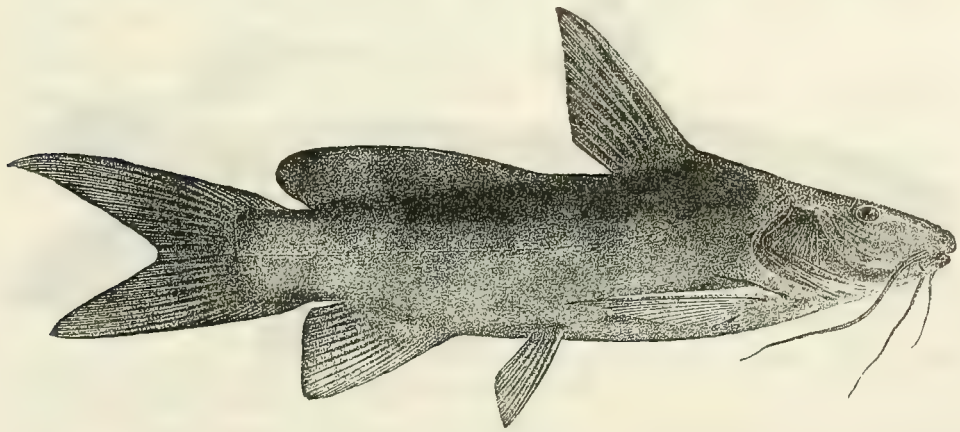
1. ANCHARIUS FUSCUS.

Steind. l. c. pl. iii. fig. 3 & pl. iv.; Sauv. l. c. pl. xlvii. A. fig. 2.

Depth of body $3\frac{2}{3}$ times in total length, length of head $3\frac{1}{2}$ times. Head nearly as long as broad, rugose, granulate from between the eyes to the extremity of the occipital process, which is longer than broad and in contact with the small, likewise granulate, interneural plate; snout broadly rounded, twice as broad as long, $\frac{2}{5}$ length of head; nostrils near end of snout; eye rather small, 8 times in length of head, 3 times in interorbital width; mouth wider than interorbital region. Maxillary barbel as long as head, reaching extremity of humeral process; outer mandibular barbel about $\frac{3}{5}$ length of head, inner about $\frac{2}{5}$. Humeral process twice as long as eye, pointed, granulate. Dorsal I 7, nearer end of snout than root of caudal; spine strong, nearly as long as head, granulate in front; adipose dorsal 4 times as long as deep, 4 times as long as its distance from rayed dorsal, narrowly separated from caudal. Anal 17. Pectoral slightly longer than head, extending to root of ventral, its spine similar to that of dorsal, but serrated on inner side. Ventral midway between eye and caudal. Caudal deeply forked. Caudal peduncle short. Dark purplish brown above, lighter beneath.

Fig. 293.





Ancharius fuscus.
Type, after Steindachner (*l. c.*). $\frac{2}{3}$.

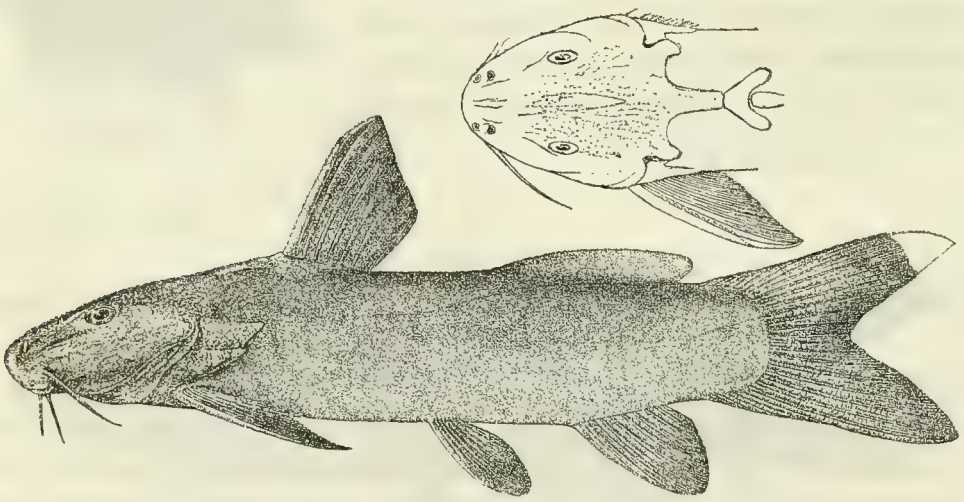
Total length 190 millim.

Tohizona, Madagascar.—Type in Vienna Museum.

2. ANCHARIUS BREVIBARBIS, sp. n.

Depth of body 5 times in total length, length of head 4 times. Head a little longer than broad, feebly rugose from between the eyes to the extremity of the occipital process, which is longer than broad and in contact with the small interneural plate; snout rounded, $1\frac{1}{2}$ times as broad as long, nearly $\frac{1}{2}$ length of head; nostrils near end of snout; eye moderate, $5\frac{1}{2}$ times in length of head, twice in interorbital width, which equals width of mouth. Maxillary barbel $\frac{1}{2}$ length of head, not reaching base of pectoral; outer mandibular barbel $\frac{1}{4}$ length of head, inner $\frac{1}{5}$. Humeral process as long as eye, pointed, granulate. Dorsal I 7, nearer

Fig. 294.



Ancharius brevibarbis.
Type. $\frac{5}{6}$.

end of snout than root of caudal; spine strong, $\frac{3}{4}$ length of head, smooth; adipose dorsal $3\frac{1}{2}$ times as long as deep, $1\frac{1}{3}$ times as long as its distance from rayed dorsal, narrowly separated from caudal. Anal 12 (9 rays branched). Pectoral slightly shorter than head, not reaching ventral, its spine similar to that of dorsal, but serrated on inner side. Ventral midway between eye and caudal. Caudal deeply forked. Caudal peduncle short. Blackish brown above, whitish beneath.

Total length 130 millim.

Madagascar.

1. Type.	Ambohimango.	Dr. Forsyth Major (C.).

26. GALEICHTHYS.

Cuv. & Val. Hist. Poiss. xv. p. 28 (1840), part. ; Bleek. Nederl. Tijdschr. Dierk. i. 1863, p. 90 ; Günth. Cat. Fish. v. p. 174 (1864).

Bagrus, part., Müll. & Trosch. Hor. Ichthyol. iii. p. 6 (1849).

Body moderately elongate, feebly compressed. Dorsal and anal fins short, the former consisting of a spine and 7 branched rays; a moderately large adipose fin. Pectoral fin with a spine. Ventral fin with 6 rays, inserted behind the vertical of the dorsal fin. Three pairs of barbels: maxillary and two mandibulars. Nostrils close together. Eyes lateral, with free border. Maxillary bone rudimentary; jaws with a band of villiform teeth; teeth on the vomer and the pterygoids. Gill-membranes narrowly attached to isthmus, not notched, forming a continuous transverse fold.

Vertebræ 52 (23+29). Branchiostegal rays 5.

Coasts and mouths of rivers of South Africa.

Two species :—

Caudal fin with long pointed lobes; caudal peduncle at least twice as long as deep . .	1. *G. feliceps*, C. & V., p. 381.
Caudal fin with short obtuse lobes; caudal peduncle not twice as long as deep . . .	2. *G. ater*, Casteln., p. 382.

1. GALEICHTHYS FELICEPS.

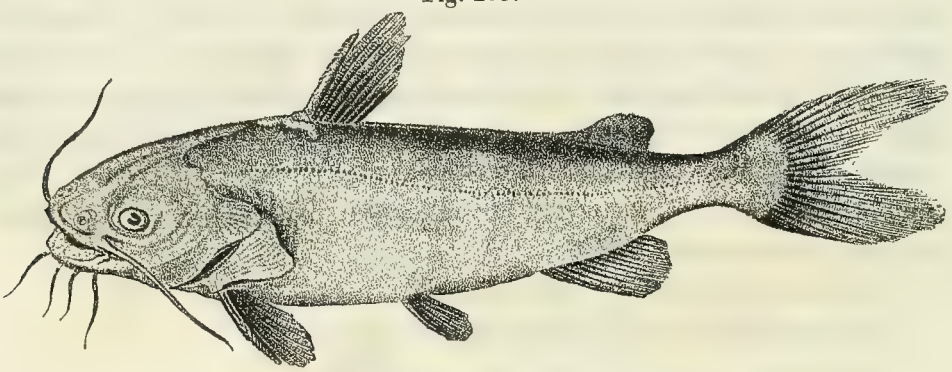
Cuv. & Val. t. c. p. 29, pl. ccccxxiv. ; Casteln. Poiss. Afr. Austr. p. 62 (1861); Günth. t. c. p. 175 ; Bleek. Nat. Tijdschr. Nederl. Ind. xxi. 1860, p. 76.

Bagrus capensis, A. Smith, Ill. Zool. S. Afr., Fish. pl. viii. (1840); Pappe, Syn. Ed. Fish. Cape G. H. p. 29 (1853).

Depth of body 4 to $4\frac{2}{3}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Head as long as broad or a little longer than broad, moderately depressed, smooth or feebly striated on the occiput and operculum; a long and narrow occipital process, in contact with a small interneural shield; snout broad, rounded, projecting feebly beyond mouth; eye lateral, oval, $1\frac{1}{2}$ (young) to $2\frac{1}{2}$ times in length of snout, $4\frac{1}{2}$ to 8 times in length of head, 2 to 4 times in interocular width; præmaxillary band of teeth 4 to 5 times as long as broad, broader than the crescentic band of teeth on the palate; barbels rather flattened, maxillary about $\frac{2}{3}$ length of head in the adult to once in the young, outer mandibular $\frac{1}{2}$ to $\frac{2}{3}$, inner mandibular $\frac{1}{3}$ to $\frac{1}{2}$. Gill-rakers rather short, 8 or 9 on lower part of anterior arch. Dorsal I 7, $1\frac{1}{2}$ to $1\frac{3}{4}$ times as distant from

end of snout as from root of caudal, spine $\frac{1}{2}$ to $\frac{2}{3}$ length of head, very feebly serrated in front and behind. Adipose dorsal $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as rayed dorsal, $1\frac{3}{4}$ to $2\frac{1}{2}$ times its distance from latter. Anal 17–19 (11–13 rays branched). Pectoral spine similar to dorsal, but usually a little longer. Caudal deeply forked, with pointed lobes, upper the longer. Caudal peduncle 2 to $2\frac{1}{3}$ times as long as deep.

Fig. 295.



Galeichthys feliceps.
Type, after Cuvier & Valenciennes. $\frac{1}{3}$.

Olive-brown above, yellowish on the sides, pinkish white beneath; fins greyish.

Total length 420 millim.

Damaraland to Natal.—Type in Paris Museum.

1. Ad., skin, type of *B. capensis.*	Cape of Good Hope.	Sir A. Smith (P.).
2–5. Yg.	Damaraland.	
6. Ad.	Algoa Bay.	J. M. Leslie, Esq. (P.).
7. Ad.	,,	H. A. Spencer, Esq. (P.).
8–9. Ad. & hgr.	Port Elizabeth.	,,
10. Skel.	,,	,,
11–20. Eggs & yg.	,,	J. M. Leslie, Esq. (P.).
21. Ad.	Natal.	Dr. E. Warren (P.).

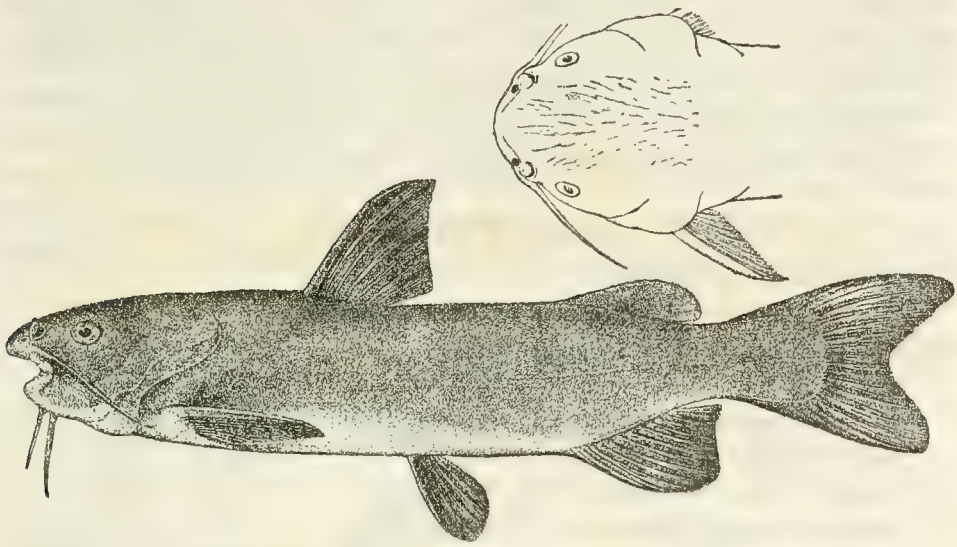
2. GALEICHTHYS ATER.

Casteln. Poiss. Afr. Austr. p. 62 (1861).

Depth of body $4\frac{2}{3}$ times in total length, length of head $3\frac{1}{2}$ times. Head as long as broad, moderately depressed, smooth; a long and narrow occipital process, hidden under the skin, in contact with a small interneural shield; snout broad, rounded, projecting feebly beyond mouth; eye lateral, oval, $2\frac{1}{2}$ times in length of snout, 8 times in length

of head, 4 times in interorbital width; præmaxillary band of teeth 6 times as long as broad, broader than the crescentic band on the palate; barbels flattened, maxillary $\frac{3}{5}$ length of head, outer mandibular not quite $\frac{1}{2}$, inner mandibular $\frac{1}{3}$. Gill-rakers rather short, 7 on lower part

Fig. 296.



Galeichthys ater. $\frac{1}{3}$.

of anterior arch. Dorsal I 7, $1\frac{1}{3}$ times as distant from end of snout as from root of caudal, spine $\frac{1}{2}$ length of head, not serrated. Adipose dorsal $1\frac{2}{3}$ times as long as rayed dorsal, $1\frac{2}{5}$ times its distance from latter. Anal 17 (12 rays branched). Pectoral spine a little longer than dorsal, feebly serrated on outer side. Caudal notched, with very short, obtuse lobes. Caudal peduncle not quite twice as long as deep. Blackish green above, lighter beneath; fins black.

Total length 360 millim.

Cape of Good Hope.

1. Ad. Cape of Good Hope. Dr. J. D. F. Gilchrist (P.).

27. ARIUS.

Cuv. & Val. Hist. Poiss. xv. p. 53 (1840), part.; Müll. & Trosch. Hor. Ichthyol. iii. p. 6 (1849); Bleek. Nederl. Tijdschr. Dierk. i. 1863, p. 91; Günth. Cat. Fish. v. p. 138 (1864), part.; Bouleng. Poiss. Bass. Congo, p. 298 (1901).

Ariodes, Müll. & Trosch. l. c.

Pseudarius, Bleek. l. c.

Body moderately elongate, not or but feebly compressed. Dorsal and

anal fins short, the former consisting of a spine and 6 or 7 branched rays; a small adipose fin. Pectoral fin with a spine. Ventral fin with 6 rays, inserted behind the vertical of the dorsal fin. Three pairs of barbels: maxillary and two mandibulars. Nostrils close together. Eyes lateral or supero-lateral, with free border. Maxillary bone rudimentary; jaws with a band of villiform teeth; teeth on the pterygoids, none on the vomer *. Gill-membranes narrowly attached to isthmus, not notched, forming a continuous transverse fold.

Vertebræ 48–58 (22–29+27–33). Branchiostegal rays 5 or 6.

Tropical Seas; a few species in fresh waters, or entering rivers.

Synopsis of the Species.

I. Teeth on palate villiform.

A. Maxillary barbel not reaching extremity of pectoral spine.

Teeth on palate in two very large groups, consisting of an anterior transverse portion narrowly separated from its fellow on the median line, and a posterior triangular portion which is longer than broad; occipital process broader at base than long . . . . . 1. *A. latiscutatus*, Gthr., p. 385.

Teeth on palate in two large triangular groups, very narrowly separated on the median line; occipital process broader at base than long . . . . . 2. *A. gigas*, Blgr., p. 386.

Teeth on palate in two rather small, widely separated, oval or subtriangular groups; occipital process as long as broad at base . 3. *A. heudeloti*, C. & V., p. 387.

B. Maxillary barbel reaching beyond pectoral spine; teeth on palate in two irregularly oval groups; occipital process as long as broad at base . . 4. *A. madagascariensis*, Vaill., [p. 388.

II. Teeth on palate granular.

Two groups of teeth on each side of palate, anterior small and rounded, posterior large and triangular . . . . . 5. *A. kirkii*, Gthr., p. 389.

A large subtriangular group of teeth on each side of palate . . . . . 6. *A. africanus*, Gthr., p. 389.

* The teeth on the palate have been described, in the African species, as vomerine and palatine, but the bones that support them are the entopterygoids (or entopterygoids + ectopterygoids).

1. ARIUS LATISCUTATUS.

Arius latiscutatus, part., Günth. Cat. Fish. v. p. 151 (1864); Bouleng. Poiss. Bass. Congo, p. 300 (1901).

Arius parkii, part., Günth. t. c. p. 154.

Depth of body 4 to 5 times in total length, length of head $3\frac{1}{2}$ to 4 times. Head slightly longer than broad, the posterior part of its upper surface rough with pearl-like granules; occipital process tectiform, broader at base than long, in contact with the interneural shield, which is small and crescentic and studded with granules same as on the skull; snout broad, rounded, projecting feebly beyond mouth; eye lateral, oval, $1\frac{1}{3}$ (young) to $2\frac{1}{2}$ times in length of snout, $4\frac{1}{2}$ to 8 times in length of head, $2\frac{1}{2}$ to 5 times in interocular width; præmaxillary band of teeth

Fig. 297.

Arius latiscutatus.
Cameroon. $\frac{1}{4}$.

5 to 6 times as long as broad; palate with two very large groups of villiform teeth, consisting of an anterior transverse portion narrowly separated from its fellow on the median line and a posterior triangular portion which is longer than broad; maxillary barbel $\frac{2}{3}$ to $\frac{7}{8}$ ($1\frac{1}{3}$ in the young) length of head, outer mandibular $\frac{1}{2}$ to $\frac{3}{5}$ (or once), inner mandibular $\frac{2}{5}$ to $\frac{2}{3}$. Gill-rakers moderately long, 12 or 13 on lower part of anterior arch. Dorsal I 7, spine $\frac{3}{4}$ to $\frac{5}{6}$ length of head, with granular tubercles anteriorly and small serræ posteriorly. Adipose dorsal small, its base at least $\frac{2}{3}$ that of rayed dorsal, about twice as distant from latter as from caudal. Anal 19–20 (13–14 rays branched).

Pectoral spine similar to dorsal. Ventral reaching, or nearly reaching, origin of anal. Caudal deeply notched, with long, pointed lobes. Caudal peduncle 2 to $2\frac{1}{2}$ times as long as deep. Olive-brown above, silvery on the sides, white beneath; distal half of pectoral, ventral, and anal fins brown or blackish.

Total length 520 millim.

Gambia, Niger, Cameroon, Fernando Po, Congo.

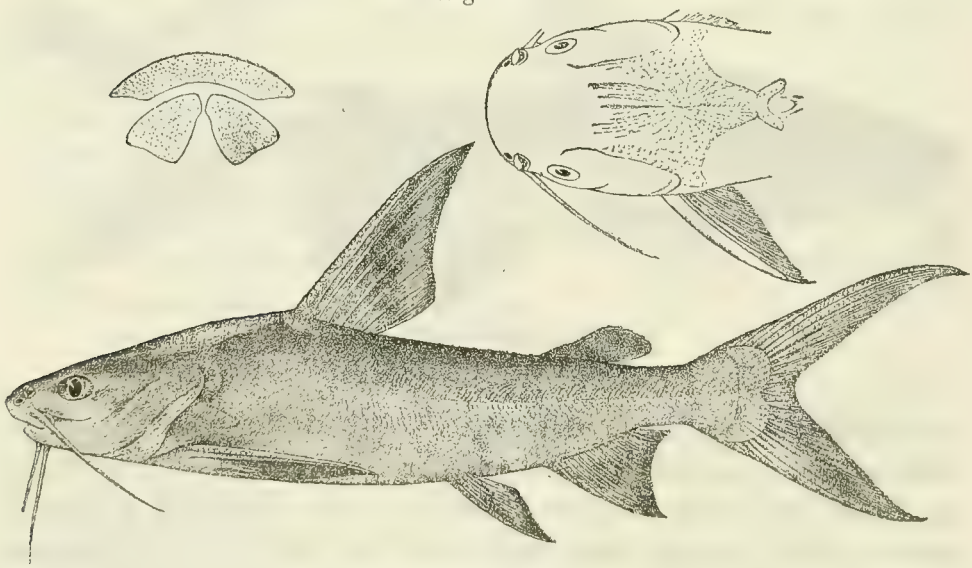
1. Hgr., type.	Fernando Po.	
2. Ad.	Cameroon.	Mr. C. L. Salmin (C.).
3. Yg., one of the types of *A. parkii*.	Niger.	Mr. L. Fraser (C.).
4. Ad.	Gambia.	J. S. Budgett, Esq. (P.).

2. ARIUS GIGAS, sp. n. *.

Arius latiscutatus, part., Günth. Cat. Fish. v. p. 151 (1864); Boulenq. Poiss. Bass. Congo, p. 300 (1901).

Depth of body 4 times in total length, length of head $3\frac{3}{4}$ times. Head slightly longer than broad, the posterior part of its upper surface

Fig. 298.



Arius gigas.
Half-grown. $\frac{2}{5}$.

* The name refers to the large skeletons which were regarded by Günther as the adults of his *A. latiscutatus*, which differs in the palatal dentition; but the description of the external characters, as here given, is necessarily taken from the much smaller specimen in spirit (total length 275 millim.).

rough with pearl-like granules; occipital process tectiform, broader at base than long, in contact with the interneural shield, which is small and crescentic and studded with granules same as on the skull; snout broad, rounded, projecting feebly beyond mouth; eye lateral, oval, twice in length of snout, 6 times in length of head, 3 times in interocular width; præmaxillary band of teeth 6 times as long as broad; palate with two large subtriangular groups of villiform teeth narrowly separated from each other in front; maxillary barbel $\frac{5}{6}$ length of head, outer mandibular $\frac{3}{5}$, inner mandibular $\frac{1}{2}$. Gill-rakers moderately long, 12–15 on lower part of anterior arch. Dorsal I 7, spine $\frac{5}{6}$ length of head, with granular tubercles anteriorly and small serræ posteriorly. Adipose dorsal small, its base $\frac{2}{3}$ that of rayed dorsal, $1\frac{2}{3}$ times as distant from latter as from caudal. Anal 17 (12 rays branched). Pectoral spine similar to dorsal. Ventral reaching origin of anal. Caudal deeply notched, with long, pointed lobes. Caudal peduncle twice as long as deep. Olive-brown above, silvery on the sides, white beneath; distal half of dorsal, pectoral, ventral, and anal fins blackish.

Total length 1150 millim.

Niger.

1. Hgr., type.	Lokoja, Upper Niger.	J. S. Budgett, Esq. (P.).
2, 3. Skels., types of *A. latiscutatus*.	Niger.	Mr. J. T. Dalton (C.).

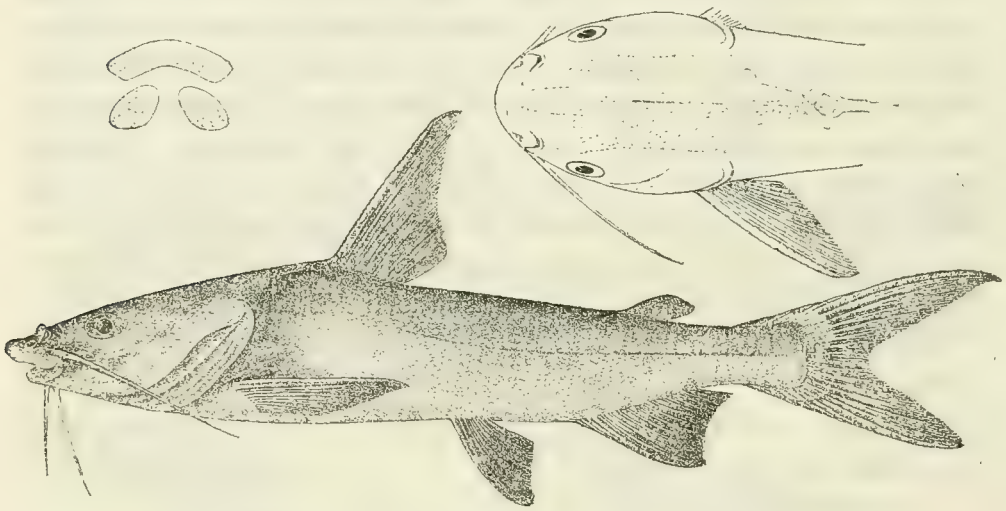
3. ARIUS HEUDELOTI.

Cuv. & Val. Hist. Poiss. xv. p. 73, pl. cccexxviii. (1840).
Arius parkii, part., Günth. Cat. Fish. v. p. 154 (1864).
Arius parkii, Steind. Notes Leyd. Mus. xv. 1894, p. 61.

Depth of body 5 to 6 times in total length, length of head $3\frac{1}{2}$ to 4 times. Head $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as broad, the posterior part of its upper surface rough with pearl-like granules; occipital process tectiform, as long as broad at base, in contact with the interneural shield, which is small and crescentic and studded with granules same as on the skull; snout short and broad, projecting very feebly beyond mouth; eye lateral, oval, 1 to $1\frac{1}{2}$ times in length of snout, 5 to 6 times in length of head, $2\frac{1}{2}$ to 4 times in interocular width; præmaxillary band of teeth short, 4 times as long as broad; palate with two rather small, widely separated, oval or subtriangular groups of villiform teeth; maxillary barbel as long as or a little shorter than head, outer mandibular $\frac{1}{2}$ to $\frac{2}{3}$ length of head, inner mandibular $\frac{1}{4}$ to $\frac{2}{5}$. Gill-rakers moderately long,

8 or 9 on lower part of anterior arch. Dorsal I 7, spine $\frac{2}{3}$ to $\frac{5}{6}$ length of head, with granular tubercles anteriorly and small serræ posteriorly. Adipose dorsal small, its base about $\frac{1}{2}$ or $\frac{2}{3}$ that of rayed dorsal, about twice as distant from latter as from caudal. Anal 17–20 (12–14 rays branched). Pectoral spine similar to dorsal. Ventral reaching, or nearly reaching, origin of anal. Caudal deeply notched, with long, pointed lobes. Caudal peduncle 2 to $2\frac{1}{2}$ times as long as deep.

Fig. 299.



Arius heudeloti.
Lagos. $\frac{1}{2}$.

Brownish above, silvery on the sides, white beneath; distal half of pectoral, ventral, and anal fins brown.

Total length 500 millim.

Upper Senegal, Niger, Lagos, Cameroon.—Types, in Paris Museum, examined.

1. Hgr., one of the types of *A. parkii*.	Niger.	Mr. L. Fraser (C.).
2. Hgr. „ „	Lagos.	J. Wood, Esq. (C.).
3. Hgr.	Cameroon.	Dr. J. A. Smith (P.).

4. ARIUS MADAGASCARIENSIS.

Vaill. Bull. Soc. Philom. (8) vi. 1894, p. 77.

Depth of body $4\frac{1}{2}$ times in total length, length of head $3\frac{2}{3}$ times. Snout rounded; eye about 5 times in length of head and $2\frac{1}{2}$ times in interorbital width; palate with two irregularly oval groups of villiform

teeth ; maxillary barbel longer than head, reaching beyond pectoral spine, outer mandibular barbel reaching latter point, inner mandibular not extending beyond branchiostegal membrane ; occipital process as long as broad at base, tectiform, in contact with a small cordiform interneural shield ; occipito-nuchal bones with granular rugosities. Dorsal I 6 ; spine longer than head. Adipose fin about as long as deep, its base considerably shorter than that of rayed dorsal. Anal 16. Pectoral spine $\frac{2}{3}$ length of head, outer border tubercular, inner border serrated. Ventral reaching anal. Steel-blue above, silvery on the side, pinkish yellow beneath ; dorsal and caudal greyish.

Total length 210 millim.

Murundava River, W. Madagascar.—Type in Paris Museum.

5. ARIUS KIRKII.

Günth. Cat. Fish. v. p. 163 (1864).

Depth of body about 5 times in total length, length of head $3\frac{1}{2}$ times. Occipital region granulated; occipital process tectiform, broader than long, in contact with a small interneural shield ; eye $4\frac{1}{2}$ times in length of head and 2 times in interocular width ; præmaxillary band of teeth short, about 4 times as long as broad ; palate with two patches of granular teeth on each side, the anterior patch small and rounded, widely separated from its fellow and narrowly from the posterior, which is large, subtriangular, and longer than broad ; maxillary barbel as long as head. Dorsal I 7, spine $\frac{2}{3}$ length of head, very feebly serrated in front and behind. Adipose dorsal small, about $2\frac{1}{2}$ times as distant from rayed dorsal as from caudal. Anal 17 (12 rays branched). Pectoral spine similar to dorsal, but rather more strongly serrated.

Closely allied to the Indian Ocean *A. dussumieri*, C. & V., and imperfectly known from a half-skin of a small specimen, the palate of which is injured *.

Zambesi.

1. Type, skin. Shupanga. Sir J. Kirk (P.).

6. ARIUS AFRICANUS.

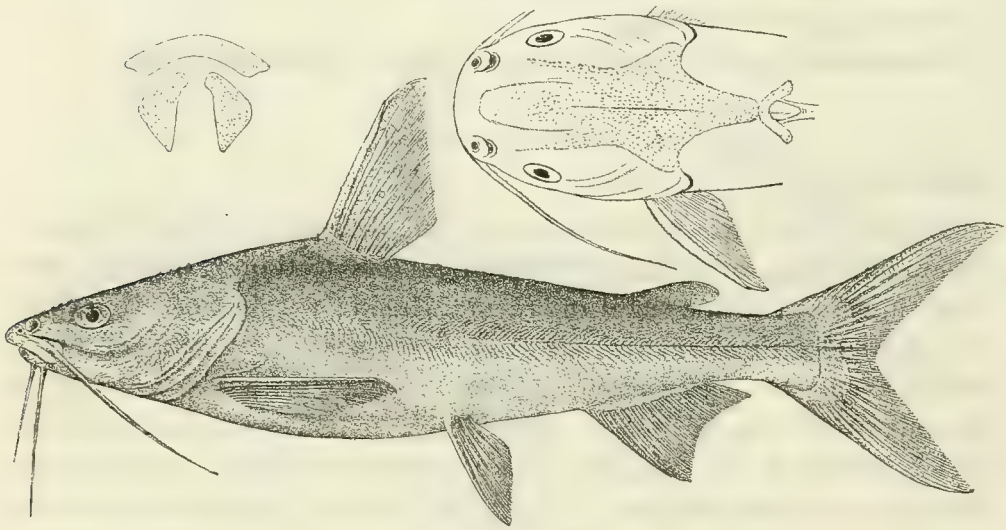
Arius falcarius, var. *africana*, Günth. & Playf. Fish. Zanzib. p. 114 (1866).

Depth of body 4 to 5 times in total length, length of head $3\frac{1}{3}$ to 4 times. Head $1\frac{1}{3}$ to $1\frac{2}{5}$ times as long as broad, the posterior part of its

* The figure of the teeth, as given by Günther, is consequently not quite correct.

upper surface rough with pearl-like granules; occipital process tectiform, longer than broad at the base, in contact with the interneural shield, which is small and crescentic and studded with granules same as on the skull; snout short and broad, projecting very feebly beyond mouth; eye lateral, oval, $1\frac{1}{2}$ to $1\frac{2}{3}$ times in length of snout, $4\frac{1}{2}$ to $5\frac{1}{2}$ times in length of head, 2 to 3 times in interocular width; præmaxillary band of teeth about 5 times as long as broad; palate with two large triangular groups of granular teeth, narrowly separated from each other in front.

Fig. 300.



Arius africanus.
Type. $\frac{1}{2}$.

Gill-rakers rather long, 14 or 15 on lower part of anterior arch. Dorsal I 7, spine $\frac{3}{5}$ to $\frac{4}{5}$ length of head, very feebly serrated on both sides. Adipose dorsal small, its base $\frac{2}{3}$ to $\frac{3}{4}$ that of rayed dorsal, $1\frac{2}{3}$ to 2 times as distant from latter as from caudal. Anal 19–21 (13–15 rays branched). Pectoral spine similar to dorsal. Ventral not reaching origin of anal. Caudal deeply forked, with long pointed lobes. Caudal peduncle twice as long as deep. Brownish above, silvery on the sides, white beneath.

Total length 250 millim.

Pangani River, East Africa.

1–2. Types.	Pangani R.	Sir Lambert Playfair (P.).
3, 4. Types, skins.	,,	,,

28. SYNODONTIS.

Cuv. Règne Anim. ii. p. 203 (1817) ; Cuv. & Val. Hist. Poiss. xv. p. 244 (1840) ; Günth. Cat. Fish. v. p. 210 (1864) ; Vaill. N. Arch. Mus. (3) vii. 1895, p. 233, & viii. 1896, p. 87 ; Bouleng. Poiss. Bass. Congo, p. 301 (1901), and Fish. Nile, p. 350 (1907).

Brachysynodontis, Bleek. Nederl. Tijdschr. Dierk. viii. 1863, p. 54.

Pseudosynodontis, Bleek. t. c. p. 55.

Hemisynodontis, Bleek. l. c.

Leiosynodontis, Bleek. l. c.

Body short or moderately elongate, more or less compressed. Dorsal fin short, formed of a strong spine and 6 or 7 branched rays; a large or very large adipose dorsal fin. Pectoral with a strong spine. Ventral fin with 7 rays, inserted behind the vertical of the dorsal. A cephalo-nuchal bony shield, united to the clavicular bones. Three pairs of barbels : maxillary and two mandibulars, all or at least the latter branched. Nostrils widely separated from each other, the anterior tubular. Eyes lateral or supero-lateral, with free border. Mouth with more or less developed lips ; a band or series of conical præmaxillary teeth ; movable, slender, more or less curved teeth implanted in the lower lip, usually followed by small teeth on the lower jaw; palate toothless. Gill-membranes confluent with the skin of the isthmus. Air-bladder large, free.

Vertebræ 36–44 (13–17 + 22–27). 7 branchiostegal rays. Intestine very elongate, forming numerous convolutions.

Nile and Tropical Africa.

Synopsis of the Species.

I. Maxillary barbel not branched ; gill-opening not extending downwards beyond base of pectoral fin.

A. Movable mandibular teeth 70 to 80 ; band of præmaxillary teeth rather long, extending along the whole width of the mouth ; head smooth above, or with feeble vermicular rugosities ; snout longer than post-ocular part of head.

Adipose dorsal $2\frac{1}{2}$ to $3\frac{1}{2}$ times as long as its distance from rayed dorsal ; caudal lobes produced into long filaments ; skin not villose . . . . . 1. *S. caudalis*, Blgr., p. 397.

Adipose dorsal $1\frac{1}{2}$ times as long as its distance from rayed dorsal ; skin villose on sides . 2. *S. polyodon*, Vaill., p. 398.

B. Movable mandibular teeth not more than 65 ; band of præmaxillary teeth not extending along the whole width of the mouth ; head more or less rugose above.

1. Humeral process pointed, bearing spines; movable mandibular teeth 36 to 55 ; skin villose on the sides.

Snout longer than postocular part of head ; maxillary barbel not distinctly fringed ; ventral not reaching beyond origin of anal. 3. *S. acanthomias*, Blgr., p. 400.

Snout not longer than postocular part of head ; maxillary barbel not distinctly fringed ; ventral reaching beyond origin of anal . 4. *S. omias*, Gthr., p. 401.

Snout not longer than postocular part of head ; maxillary barbel broadly fringed ; ventral reaching anal . . . . . 5. *S. budgetti*, Blgr., p. 403.

2. Humeral process pointed, without spines.

a. Spine of dorsal fin not serrated in front *.

α. Maxillary barbel $\frac{4}{5}$ to $1\frac{3}{4}$ times length of head.

* Snout not or but little longer than postocular part of head.

† Maxillary barbel not or but feebly fringed.

‡ Movable mandibular teeth 20 to 48 ; base of adipose dorsal $2\frac{1}{3}$ to 6 times its distance from rayed dorsal.

§ Interorbital width not half length of head ; 24–36 movable mandibular teeth ; humeral process longer than broad.

Inner mandibular barbel with the basal branches short, with tubercular ramifications ; pectoral spine feebly serrated on outer border ; ventral usually not reaching anal ; skin more or less villose on sides . . . . . 6. *S. schall*, Bl. Schn., p. 404.

Inner mandibular barbel with the basal branches short, with tubercular ramifications ; pectoral spine moderately or strongly serrated on outer border ; ventral usually reaching anal ; skin smooth . . . . . 7. *S. gambiensis*, Gthr., p. 407.

Inner mandibular barbel with long slender branches without tubercular ramifications ; pectoral spine moderately serrated on outer border ; skin smooth . . . . . 8. *S. ocellifer*, Blgr., p. 409.

§§ Interorbital width half, or nearly half, length of head in adult ; 33–48 movable mandibular teeth.

Ventral reaching anal, both acutely pointed ; humeral process not much longer than deep ; skin smooth . . . . . 9. *S. frontosus*, Vaill., p. 410.

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* Sometimes very slightly in *S. caudovittatus* and *S. gambianus*.

Ventral reaching anal, both rounded ; humeral process not much longer than deep ; skin smooth . . . . . 10. *S. caudovittatus*, Blgr., p. 412.

Ventral not reaching anal, both rounded ; humeral process narrow, much longer than deep ; skin granular . . . . . 11. *S. granulosus*, Blgr., p. 413.

‡‡ Movable mandibular teeth 20 to 40 ; base of adipose dorsal $1\frac{1}{5}$ to $2\frac{1}{2}$ times its distance from rayed dorsal ; humeral process longer than broad.

Pectoral spine feebly serrated on outer border, not reaching ventral ; mandibular barbels with long slender branches ; skin smooth. 12. *S. zambesensis*, Peters, p. 415.

Pectoral spine strongly serrated on both sides, nearly reaching ventral ; mandibular barbels with long slender branches ; skin smooth . . . . . 13. *S. nigromaculatus*, Blgr., [p. 416.

Pectoral spine strongly serrated on both sides, nearly reaching ventral ; mandibular barbels with long slender branches ; skin villose on sides . . . . . 14. *S. melanostictus*, Blgr., p. 418.

Pectoral spine strongly serrated on both sides, not reaching ventral ; mandibular barbels with short, mostly bifid branches ; skin smooth . . . . . 15. *S. multimaculatus*, Blgr., [p. 419.

‡‡‡ Movable mandibular teeth 14 to 21 (usually less than 20).

Pectoral spine very feebly serrated or nearly smooth on outer side ; adipose dorsal 2 to 3 times as long as its distance from rayed dorsal ; spine of dorsal a little shorter than head ; head little longer than broad . . 16. *S. multipunctatus*, Blgr., [p. 420.

Pectoral spine feebly serrated on outer side ; adipose dorsal $1\frac{2}{3}$ to 2 times as long as its distance from rayed dorsal ; spine of dorsal a little shorter than head ; head $1\frac{1}{3}$ times as long as broad . . . . . 17. *S. victoriæ*, Blgr., p. 421.

Pectoral spine feebly serrated on outer side ; adipose dorsal as long as its distance from rayed dorsal ; spine of dorsal much shorter than head ; anal pointed in front . . . 18. *S. nebulosus*, Peters, p. 423.

Pectoral spine feebly serrated on outer side ; adipose dorsal as long as its distance from rayed dorsal ; spine of dorsal a little shorter than head ; anal rounded . . . 19. *S. woosnami*, Blgr., p. 424.

Pectoral spine strongly serrated on both sides; adipose dorsal not longer than its distance from rayed dorsal; spine of dorsal about $\frac{1}{2}$ length of head . . . . . 20. *S. marmoratus*, Lönnb., [p. 425.

‡‡‡‡ Movable mandibular teeth 45 to 54; base of adipose dorsal $1\frac{1}{3}$ to $2\frac{1}{3}$ times its distance from rayed dorsal; pectoral spine strongly serrated on both sides.

Humeral process much longer than broad; skin villose on sides . . . . . 21. *S. afro-fischeri*, Hilg., p. 425.

Humeral process not longer than broad . . . 22. *S. fuelleborni*, Hilg. & [Pappenh., p. 427.

†† Maxillary barbel strongly margined at the base, the marginal membrane at least nearly as broad as the barbel.

‡ Movable mandibular teeth 45 to 50.

Anterior soft rays of dorsal much produced . 23. *S. eupterus*, Blgr., p. 427.

‡‡ Movable mandibular teeth 30 to 43.

Pectoral spine feebly serrated on outer side; adipose dorsal not more than twice as long as its distance from rayed dorsal. . . . 24. *S. nigrita*, C. & V., p. 429.

Pectoral spine strongly serrated on both sides; adipose dorsal 3 times as long as its distance from rayed dorsal . . . . . 25. *S. melanopterus*, Blgr., p. 431.

‡‡‡ Movable mandibular teeth 15–28.

Humeral process not much longer than broad; adipose dorsal $1\frac{1}{3}$ times as long as its distance from rayed dorsal; maxillary barbel $\frac{4}{5}$ length of head . . . . . 26. *S. macrostigma*, Blgr., p. 432.

Humeral process longer than broad; eye at least twice in interorbital width; adipose dorsal $1\frac{1}{2}$ to $2\frac{1}{2}$ times as long as its distance from rayed dorsal; maxillary barbel $1\frac{1}{6}$ to $1\frac{1}{3}$ length of head . . . . . 27. *S. obesus*, Blgr., p. 433.

Humeral process much longer than broad; eye not twice in interorbital width; adipose dorsal $2\frac{1}{2}$ to $3\frac{1}{2}$ times as long as its distance from rayed dorsal; maxillary barbel $1\frac{1}{4}$ to $1\frac{1}{2}$ length of head . . . . 28. *S. robbianus*, J. A. Smith, [p. 435.

** Snout considerably longer than postocular part of head.

† Maxillary barbel not distinctly margined.

‡ Movable mandibular teeth 50–55; maxillary barbel not longer than head.

Skin villose on sides . . . . . 29. *S. haugi*, Pellegr., p. 436.

‡‡ Movable mandibular teeth 30–35; maxillary barbel longer than head.

Humeral process keeled, sharply pointed; skin villose on sides . . . . . 30. *S. depauwi*, Blgr., p. 438.

Humeral process feebly keeled, obtusely pointed; skin smooth . . . . . 31. *S. tholloni*, Blgr., p. 439.

Humeral process not keeled, sharply pointed; skin smooth . . . . . 32. *S. angelicus*, Schilth., p. 440.

‡‡‡ Movable mandibular teeth 15–20; maxillary barbel not or but slightly longer than head.

Humeral process much longer than broad; snout twice as long as postocular part of head . . . . . 33. *S. courteti*, Pellegr., p. 441.

Humeral process little longer than broad; snout not twice as long as postocular part of head . . . . . 34. *S. vardalis*, Blgr., p. 442.

†† Maxillary barbel very distinctly margined at base.

Movable mandibular teeth 20–26; adipose dorsal shorter than head . . . . . 35. *S. ornatipinnis*, Blgr., p. 444.

Movable mandibular teeth 18–20; adipose dorsal longer than head . . . . . 36. *S. soloni*, Blgr., p. 445.

β. Maxillary barbel $\frac{1}{2}$ to $\frac{3}{4}$ length of head; snout much longer than postocular part of head.

* Movable mandibular teeth 24–30.

Snout $2\frac{1}{2}$ times postocular part of head, acutely pointed; adipose dorsal a little shorter than its distance from rayed dorsal; maxillary barbel $\frac{3}{4}$ length of head . . . . 37. *S. guttatus*, Gthr., p. 447.

Snout 2 times postocular part of head, obtusely pointed; adipose dorsal as long as its distance from rayed dorsal; maxillary barbel $\frac{1}{2}$ length of head . . . . . 38. *S. longirostris*, Blgr., p. 448.

** Movable mandibular teeth less than 10.

Snout 2 times postocular part of head, terminating in a globular swelling; adipose dorsal nearly twice as long as its distance from rayed dorsal; maxillary barbel $\frac{3}{4}$ length of head . . . . . 39. *S. labeo*, Gthr., p. 449.

Snout $1\frac{1}{2}$ times postocular part of head, terminating in a spatulate expansion; adipose dorsal much shorter than its distance from rayed dorsal; maxillary barbel $\frac{1}{2}$ length of head . . . . . 40. *S. vaillanti*, Blgr., p. 450.

Snout $2\frac{1}{2}$ times postocular part of head, terminating in a pointed process; adipose dorsal $1\frac{1}{2}$ times as long as its distance from rayed dorsal; maxillary barbel $\frac{1}{2}$ length of head . . . . . 41. *S. xiphias*, Gthr., p. 451.

γ. Maxillary barbel 2 to 4 times length of head; snout not or but slightly longer than postocular part of head.

Movable mandibular teeth 40–65; maxillary barbel not extending beyond ventral; skin villose on sides . . . . . 42. *S. greshoffi*, Schilth., p. 452.

Movable mandiblar teeth 18–25; maxillary barbel extending far beyond ventral; skin smooth . . . . . 43. *S. alberti*, Schilth., p. 454.

b. Spine of dorsal serrated in front.

α. Maxillary barbel without distinct margin; adipose dorsal rather small, not longer than its distance from rayed dorsal; snout as long as postocular part of head.

Movable mandibular teeth 30–40 . . . . . 44. *S. batesii*, Blgr., p. 455.

β. Maxillary barbel broadly margined; adipose dorsal large, 4 to 8 times as long as its distance from rayed dorsal; snout longer than postocular part of head.

Movable mandibular teeth 30–48; skin smooth. 45. *S. serratus*, Rüpp., p. 457.

Movable mandibular teeth 18; skin villose on sides . . . . . 46. *S. geledensis*, Gthr., p. 458.

3. Humeral process rounded or broadly truncate behind; maxillary barbel more or less broadly margined at base.

a. Eyes supero-lateral, or nearly perfectly lateral, but not visible from below.

α. Movable mandibular teeth 16–20.

Maxillary barbel a little shorter than head; adipose dorsal much longer than head; movable mandibular teeth barely $\frac{1}{4}$ diameter of eye . . . . . 47. *S. filamentosus*, Blgr., p. 460.

Maxillary barbel a little shorter than head; adipose dorsal a little longer than head; movable mandibular teeth nearly $\frac{1}{2}$ diameter of eye . . . . . 48. *S. smiti*, Blgr., p. 461.

Maxillary barbel longer than head; adipose dorsal much shorter than head; movable mandibular teeth barely $\frac{1}{4}$ diameter of eye. 49. *S. notatus*, Vaill., p. 462.

β. Movable mandibular teeth 6–12; adipose dorsal nearly as long as head.

Maxillary barbel not longer than head; movable mandibular teeth not more than $\frac{1}{3}$ diameter of eye . . . . . 50. *S. nummifer*, Blgr., p. 463.

Maxillary barbel not more than $\frac{1}{2}$ length of head ; movable mandibular teeth at least as long as eye . . . . . 51. *S. sorex*, Gthr., p. 465.

b. Eyes perfectly lateral, visible from below as well as from above ; movable mandibular teeth 12–19 ; adipose dorsal shorter than head.

Maxillary barbel shorter than head . . . . 52. *S. pleurops*, Blgr., p. 466.

II. Maxillary barbel branched ; gill-opening not extending downwards beyond base of pectoral spine.

Movable mandibular teeth 4–11 ; maxillary barbel not margined, with short branches ; adipose dorsal as long as its distance from rayed dorsal . . . . . 53. *S. decorus*, Blgr., p. 468.

Movable mandibular teeth 6–9 ; maxillary barbel with a distinct marginal membrane at base and with long, slender, finely tuberculate branches ; adipose dorsal much longer than its distance from rayed dorsal. 54. *S. clarias*, L., p. 469.

Movable mandibular teeth 60 ; maxillary barbel with a broad marginal membrane and short, obtuse branches ; adipose dorsal nearly touching rayed dorsal . . . . . 55. *S. resupinatus*, Blgr., p. 471.

III. Maxillary barbel not branched, but broadly margined ; gill-opening extending downwards beyond base of pectoral spine ; adipose dorsal touching rayed dorsal.

Gill-openings widely separated ; mandibular barbels branched but not margined ; movable mandibular teeth 30–57 . . . 56. *S. batensoda*, Rüpp., p. 472.

Gill-openings separated by a narrow isthmus ; mandibular barbels branched at the base, with a membranous margin at the end ; movable mandibular teeth 6–9 . . . . 57. *S. membranaceus*, Geoffr., [p. 474.

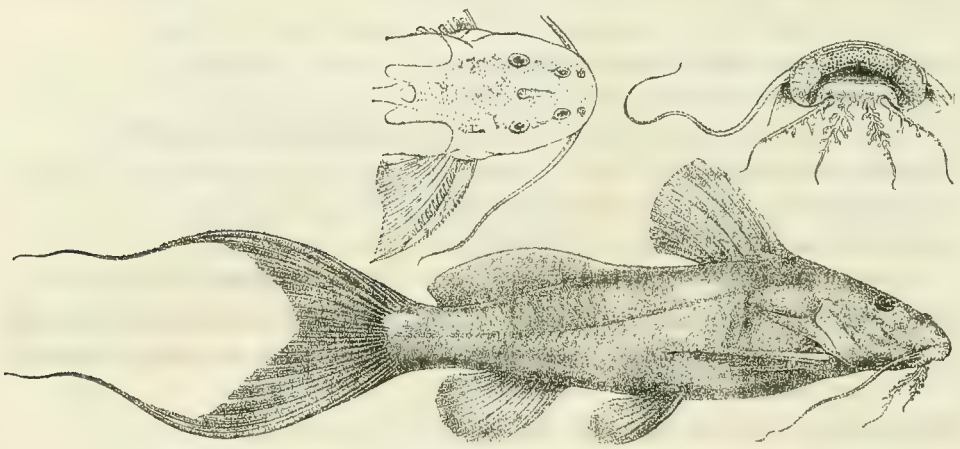
1. SYNODONTIS CAUDALIS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 44, pl. xxii. fig. 1 (1899), and Poiss. Bass. Congo, p. 306 (1901).

Depth of body equal to length of head, 4 to $4\frac{1}{2}$ times in total length. Head as broad as long, nearly smooth above ; snout rounded, $\frac{1}{2}$ length of head ; eye supero-lateral, $5\frac{1}{2}$ to 6 times in length of head ; 2 to $2\frac{1}{2}$ times in interorbital width ; lips much developed ; præmaxillary teeth forming a rather long and moderately broad band ; movable mandibular teeth hardly $\frac{1}{2}$ diameter of eye, 70 to 80 in number. Maxillary barbel not margined, $1\frac{1}{2}$ to $1\frac{2}{3}$ times length of head ; mandibular barbels with

moderately long branches with tubercular ramifications, outer a little longer than inner and $\frac{2}{3}$ length of head. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield smooth, convex, only a little longer than broad, with posterior processes sharply pointed or obtuse. Humeral process feebly striated, narrow and sharply pointed, extending as far back as occipito-nuchal process. Dorsal I 7; spine not very strong, hardly $\frac{2}{3}$ length of head, smooth in front, feebly serrated behind. Adipose dorsal 4 to 5 times as long as deep, $2\frac{1}{2}$ to $3\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal III 8–9, rounded. Pectoral spine as long as or a little shorter than

Fig. 301.



Synodontis caudalis.
Type (A. M. C.). $\frac{2}{3}$.

head, strongly serrated on both sides, especially behind. Ventral nearly reaching anal. Caudal deeply notched, both lobes produced into a long filament. Caudal peduncle deeper than long. Uniform brownish.

Total length 140 millim.

Congo.—Types in Congo Museum, Tervueren.

1–2. Two of the types. Leopoldville. Capt. Wilverth (C.).

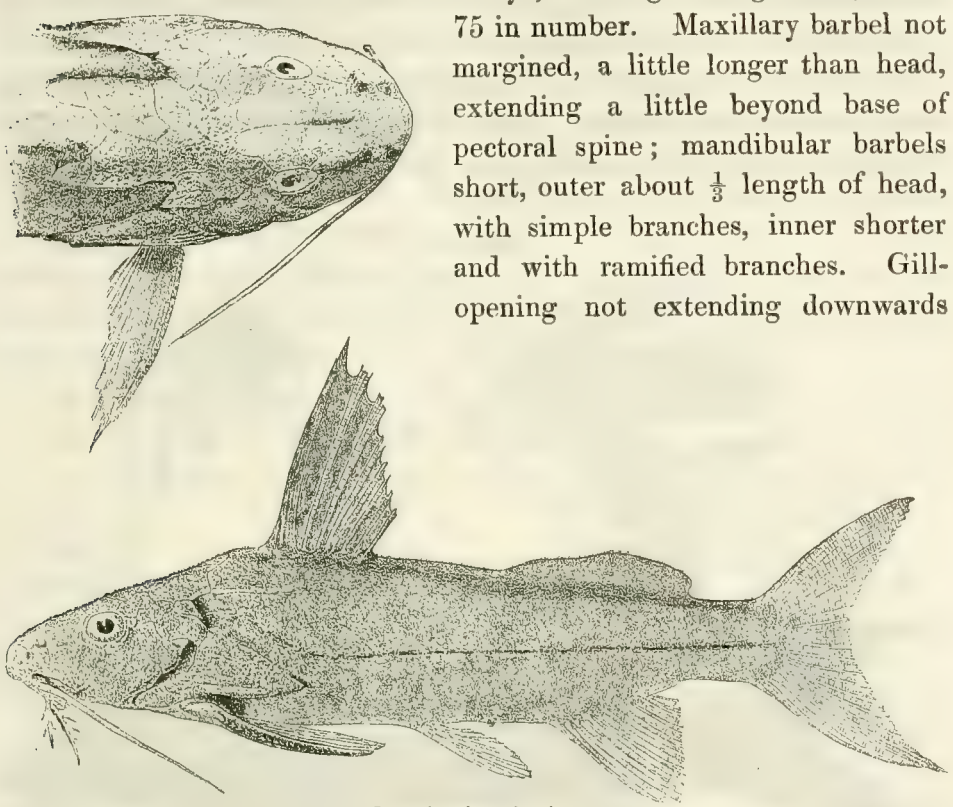
2. SYNODONTIS POLYODON.

Vaill. C. R. Soc. Philom. 1893, p. 48, and N. Arch. Mus. (3) viii. 1896, p. 127, pl. xi. fig. 1.

Depth of body $4\frac{1}{2}$ times in total length, length of head 4 times. Head slightly longer than broad, with feeble vermicular rugosities above; snout rounded, $\frac{1}{2}$ length of head; eye supero-lnteral, $5\frac{1}{2}$ times in length

of head, twice in interorbital width; lips moderately developed; præmaxillary teeth forming a long and moderately broad band; movable mandibular teeth about $\frac{1}{2}$ diameter of eye, forming a long series, about 75 in number. Maxillary barbel not margined, a little longer than head, extending a little beyond base of pectoral spine; mandibular barbels short, outer about $\frac{1}{3}$ length of head, with simple branches, inner shorter and with ramified branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield with feeble vermicular rugosities, obtusely tectiform, a little broader than long, with posterior processes obtuse. Humeral process striated, keeled, longer than deep, acutely pointed. Skin villose on sides. Dorsal I 7; spine nearly as long as head, striated, smooth in front, feebly serrated behind. Adipose dorsal $3\frac{1}{2}$ times as long as deep, about $1\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal III 8, obtusely pointed in front. Pectoral spine as long as head, strongly serrated on both sides, especially on the inner. Ventral not reaching anal. Caudal deeply notched. Caudal peduncle as long as deep. Brownish; caudal with traces of dark spots forming four or five transverse series.

Fig. 302.



Synodontis polyodon.
After Vaillant, *l. c.* $\frac{2}{3}$.

Total length 175 millim.

Ogowe.—Type in Paris Museum.

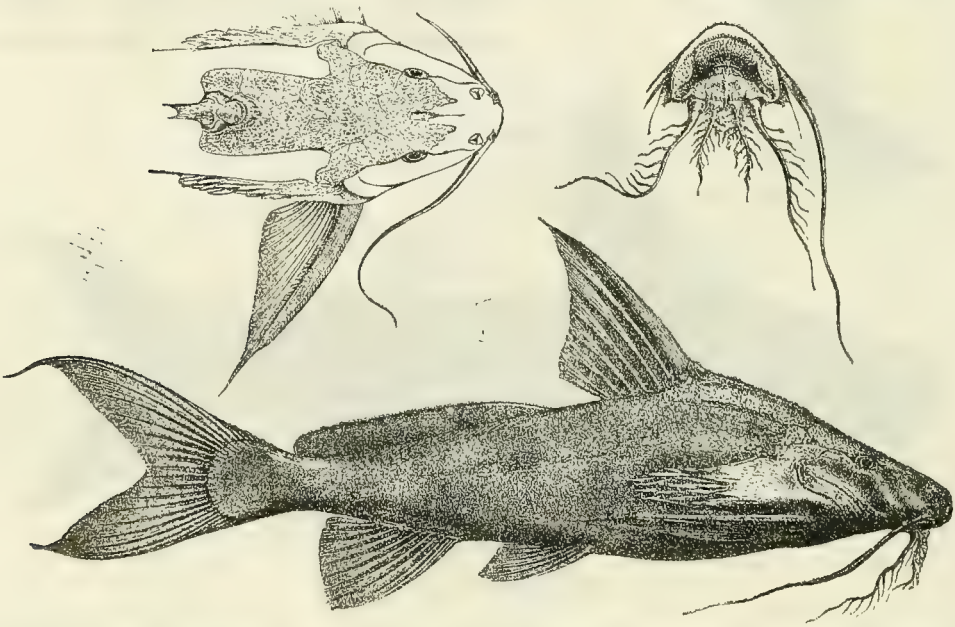
3. SYNODONTIS ACANTHOMIAS.

Synodontis omias (non Günth.), Vaill. N. Arch. Mus. (3) viii. 1896, p. 130, pl. xiii. fig. 2.

Synodontis acanthomias, Boulenq. Ann. Mus. Congo, Zool. i. p. 46, pl. xxiii. (1899), and Poiss. Bass. Congo, p. 310 (1901).

Depth of body equal to or a little greater than length of head, $3\frac{2}{3}$ to $4\frac{1}{3}$ times in total length. Head as long as broad or slightly longer than broad, feebly rugose above from between the eyes; snout obtusely

Fig. 303.



Synodontis acanthomias.
Type (A. M. C.). $\frac{1}{4}$.

pointed, $1\frac{1}{4}$ to $1\frac{1}{3}$ times length of postocular part of head; eye superolateral, $5\frac{1}{2}$ to $7\frac{1}{2}$ times in length of head, 2 to 3 times in interorbital width; lips moderately developed; præmaxillary teeth forming a broad and rather short band; movable mandibular teeth nearly $\frac{1}{2}$ diameter of eye, 36 to 50 in number. Maxillary barbel not distinctly margined, 1 to $1\frac{1}{2}$ times length of head, reaching anterior third or middle of pectoral spine; outer mandibular barbels twice as long as inner, with long slender branches, inner with shorter branches bearing tubercular ramifications. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield obtusely tectiform, rough like

the occiput, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, with truncate or pointed posterior processes. Humeral process $2\frac{1}{2}$ to 3 times as long as broad, extending as far back as occipito-nuchal shield, armed in the adult with several strong spines directed backwards; these spines reduced to 2 or 3 in the young. Skin villose on the sides. Dorsal I 6–7; spine as long as or a little shorter than head, striated, smooth in front, very feebly serrated behind. Adipose dorsal 5 to 7 times as long as deep, 3 to 5 times as long as its distance from rayed dorsal. Anal IV 8–10, rounded or obtusely pointed in front. Pectoral spine a little longer than head, strongly serrated on both sides. Ventral reaching anal or not. Caudal deeply forked, upper lobe the longer. Caudal peduncle as long as deep. Greyish or brownish above, uniform or with small round blackish spots, yellowish white beneath.

Total length 400 millim.

Congo.—Types in Congo Museum, Tervueren.

1. One of the types.	Boma, Lower Congo.	Capt. Wilverth (C.).
2. Ad.	Matadi, „	M. P. Delhez (C.).
3. Ad.	Stanley Pool.	M. De Meuse (C.).
4–5. Ad. & hgr.	Monsembe, Upper Congo.	Rev. J. H. Weeks (P.).
6. Ad.	Stanley Falls.	Rev. W. H. Bentley (C.).
7–10. Ad. & hgr.	Upper Congo.	Brussels University.
11. Skel.	„	Rev. G. Grenfell (P.).

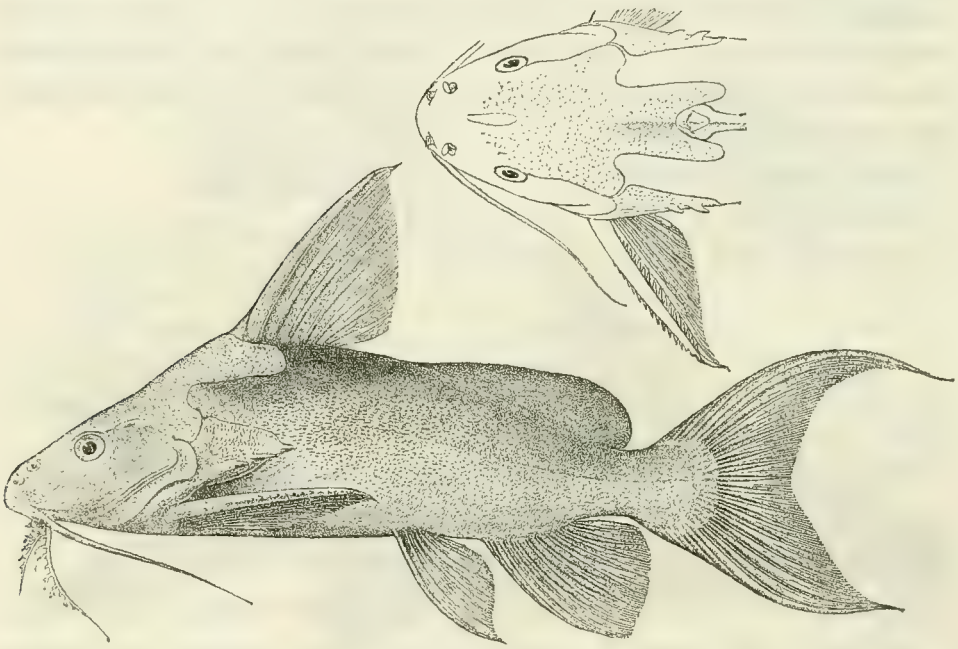
4. SYNODONTIS OMIAS.

Günth. Cat. Fish. v. p. 213 (1864); Bouleng. Poiss. Bass. Congo, p. 311 (1901).

Depth of body equal to length of head, $3\frac{1}{2}$ times in total length. Head a little longer than broad, feebly rugose above from between the eyes; snout very obtusely pointed, as long as or slightly shorter than postocular part of head; eye supero-lateral, 5 to 6 times in length of head, 2 to $2\frac{1}{2}$ times in interorbital width; lips moderately developed; præmaxillary teeth forming a broad and short band; movable mandibular teeth barely $\frac{1}{3}$ diameter of eye, 40 to 50 in number. Maxillary barbel with a rudiment of fringe at base, a little longer than head, reaching anterior third of pectoral spine; mandibular barbels with short branches bearing tubercular ramifications, outer twice as long as inner. Gill-openings not extending downwards beyond root of pectoral spine. Occipito-nuchal shield obtusely tectiform, feebly rugose like the occiput, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, with rounded or truncate posterior processes. Humeral process $1\frac{1}{2}$ times as long as broad,

extending as far back as occipito-nuchal shield, with 2 or 3 strong spines directed backwards. Skin villose on the sides. Dorsal I 7; spine as long as or a little longer than head, feebly curved, striated, smooth in front, very feebly serrated behind. Adipose dorsal 3 to $3\frac{1}{2}$ times as long as deep, twice as long as its distance from rayed dorsal. Anal V 7–8, pointed in front. Pectoral spine nearly as long as head, strongly serrated on both sides. Ventral reaching beyond origin of anal. Caudal deeply

Fig. 304.



Synodontis omias.
Jebba. $\frac{1}{3}$.

forked, upper lobe the longer and produced into a filament. Caudal peduncle as long as deep. Uniform brownish.

Total length 350 millim.

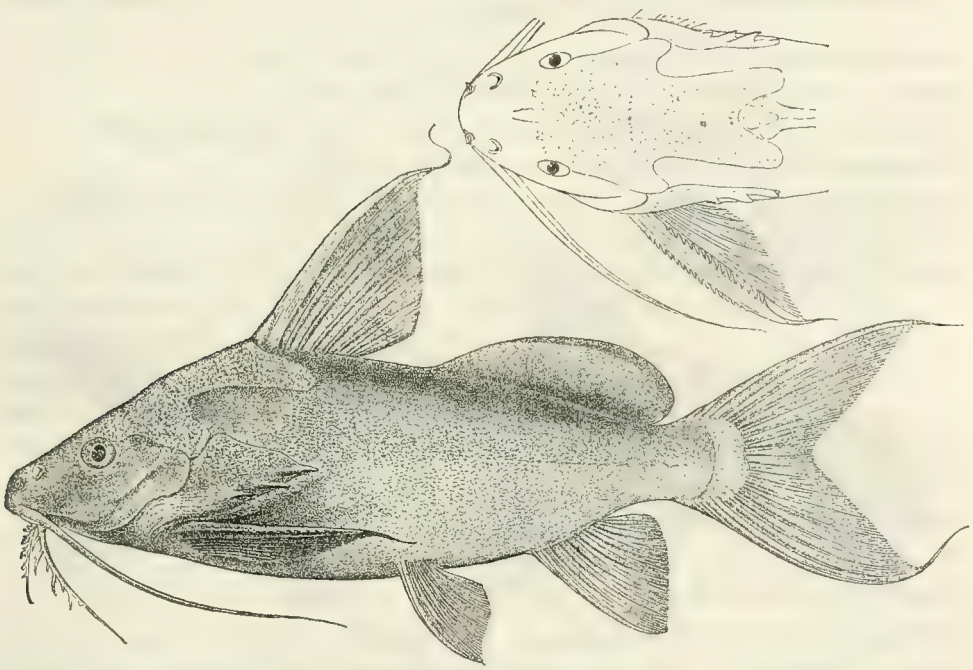
Niger.

1. Ad.	Jebba, Upper Niger.	Capt. G. F. Abadie (P.).
2. Skeleton, type.	Niger.	Mr. J. T. Dalton (C.).
3. Skel.	W. Africa.	

5. SYNODONTIS BUDGETTI, sp. n.

Depth of body equal to length of head, $3\frac{2}{5}$ times in total length. Head slightly longer than broad, feebly rugose above from between the eyes; snout rounded, as long as postocular part of head; eye superolateral, $6\frac{1}{2}$ times in length of head, $2\frac{1}{2}$ times in interorbital width; lips moderately developed; præmaxillary teeth forming a broad and short band; movable mandibular teeth barely $\frac{1}{3}$ diameter of eye, 55 in number.

Fig. 305.



Synodontis budgetti.
Type. $\frac{1}{3}$.

Maxillary barbel with a broad fringe at base, $1\frac{3}{5}$ times as long as head, nearly reaching extremity of pectoral spine; mandibular barbels with short branches bearing tubercular ramifications, outer twice as long as inner. Gill-openings not extending downwards beyond root of pectoral spine. Occipito-nuchal shield obtusely tectiform, feebly rugose like the occiput, $1\frac{1}{3}$ times as long as broad, with rounded posterior processes. Humeral process $1\frac{1}{2}$ times as long as broad, extending as far back as occipito-nuchal shield, with 3 strong spines directed backwards. Skin villose on the sides. Dorsal I 7; spine as long as head, bearing a long filament, feebly curved, striated, smooth in front, very feebly serrated

behind. Adipose dorsal 3 times as long as deep, $3\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal V 7, pointed in front. Pectoral spine as long as head, strongly serrated on both sides. Ventral reaching origin of anal. Caudal deeply forked, both lobes produced into a filament. Caudal peduncle as long as deep. Uniform brown.

Total length 340 millim.

Niger.

1. Type. Lokoja, Upp. Niger. J. S. Budgett, Esq. (P.).

6. SYNODONTIS SCHALL.

Schall, Sonnini, Voy. Egypte, ii. p. 278, pl. xxi. fig. 2 (1799).

Silurus schall, Bloch-Schneid. Syst. Ichth. p. 385 (1801).

Pimelodus clarias, Geoffr. Descr. Egypte, Poiss. pl. xiii. figs. 3 & 4 (1809).

Synodontis clarias, I. Geoffr. op. cit. p. 316 (1827).

Synodontis maculosus, Rüpp. Beschr. n. Fische Nil, p. 10, pl. iii. fig. 1 (1829).

Synodontis arabi, Cuv. & Val. Hist. Poiss. xv. p. 261 (1840).

Synodontis schall, Hyrtl, Denkschr. Ak. Wien, xvi. 1859, p. 16 ; Günth. Cat. Fish. v. p. 212 (1864), and Petherick's Trav. ii. p. 235 (1862) ; Steind. Sitzb. Ak. Wien, lxi. i. 1870, p. 533 ; Vaill. N. Arch. Mus. (3) viii. 1896, p. 121, & vii. pl. x. fig. 7 ; Günth. Proc. Zool. Soc. 1896, p. 221, fig. ; Pfeff. Thierw. O.-Afr., Fische, p. 36 (1896) ; Vincig. Ann. Mus. Genova, (2) xix. 1898, p. 246 ; Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 566, and Fish. Nile, p. 353, pl. lxiv. (1907).

Hemisynodontis schall, Bleek. Nederl. Tijdschr. Dierk. i. 1863, p. 55.

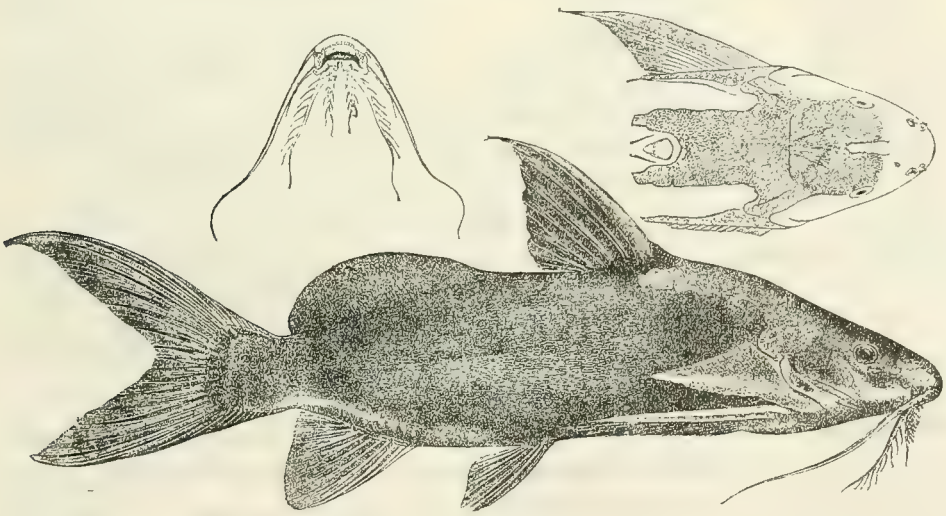
Leiosynodontis maculosus, Bleek. l. c.

Synodontis smithii, Günth. Proc. Zool. Soc. 1896, p. 222, pl. ix. ; Vincig. l. c.

Depth of body 3 to 4 times in total length, length of head $3\frac{1}{5}$ to 4 times. Head $1\frac{1}{5}$ to $1\frac{2}{3}$ times as long as broad, little broader than deep, rugose above behind snout, which is rounded and as long as or shorter than postocular part of head ; eye supero-lateral, $4\frac{1}{2}$ (young) to 8 times in length of head, $1\frac{3}{4}$ to $2\frac{1}{4}$ times in interorbital width ; lips moderately developed ; præmaxillary teeth forming a short and broad band ; movable mandibular teeth not more than $\frac{1}{2}$ diameter of eye, 24 to 36 in number. Maxillary barbel with a narrow marginal membrane at base, $\frac{4}{5}$ to $1\frac{2}{3}$ times length of head, reaching between base and posterior fifth of pectoral spine ; outer mandibular barbel about twice as long as inner, former with long, slender branches, latter with shorter branches, with tubercular ramifications. Gill-openings not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{1}{2}$ to 2 times as long as broad, with posterior

processes pointed or truncate. Humeral process much longer than broad, very obtusely keeled, the keel sometimes very indistinct, sharply pointed, usually extending as far back as occipito-nuchal process. Skin more or less villose on sides. Dorsal I 7 ; spine $\frac{3}{4}$ to slightly over once length of head, straight or curved, striated and sharp-edged or very finely granulate in front, feebly serrated behind. Adipose dorsal 3 to $4\frac{1}{2}$ times as long as deep, $2\frac{1}{3}$ to $4\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal IV 8–9, obtusely pointed in front. Pectoral spine as long as or slightly longer or a little shorter than that of dorsal, rarely reaching root of ventral, outer border very finely, inner border strongly serrated.

Fig. 306.



Synodontis schall.
Lower Nile (F. N.). $\frac{1}{3}$.

Ventral usually not reaching anal. Caudal deeply forked, upper lobe the longer, sometimes prolonged into a filament. Caudal peduncle as long as deep or deeper than long. Grey, brown, or olive above, white beneath : adults uniform, with the paired fins and the anal sometimes blackish ; half-grown with very numerous dark dots ; young handsomely marbled and spotted, with wavy and oblique bands of yellowish, and two or three more or less regular yellowish streaks along the snout.

Total length 410 millim.

Nile ; Lakes Abaia, Stephanie, and Rudolf ; Chad Basin ; Senegal.

1–2. Ad.	Lower Nile.	J. Petherick, Esq. (C.).
3. Skel.	,,	,,

4–6. Yg.	Near Ghat-el-Nassara, L. Menzaleh (fresh water).	L. Loat, Esq. (C.).
7–8. Hgr.	Freshwater canal near San, L. Menzaleh.	,,
9–16. Ad., hgr., & yg.	Samannud, Damietta Nile.	,,
17. Skel.	,, ,,	,,
18–27. Ad., hgr., & yg.	Rosetta Nile, near Barrage.	,,
28–29. Ad. & hgr.	Cairo.	Dr. Rüppell (C.).
30–34. Hgr. & yg., types of *S. maculosus*.	,,	,,
35–40. Ad., hgr., & yg.	Cairo.	L. Loat, Esq. (C.).
41–49. Yg.	Near Cairo.	,,
50. Ad.	,,	Capt. S. Flower (P.).
51–52, 53. Ad.	Giza, near Cairo.	,,
54–62. Hgr. & yg.	Beni Souef, Low. Nile.	L. Loat, Esq. (C.).
63. Yg.	Sanhur, ,,	,,
64. Ad.	Birket Karun, Fayum.	,,
65–66. Ad. & hgr.	,, ,,	Dr. Cunnington and C. L. Boulenger, Esq. (C.).
67–70. Hgr.	Bahr Selah, Fayum.	L. Loat, Esq. (C.).
71–74. Yg.	Between Assiut and Abu Tig.	,,
75. Hgr.	Achmein, Low. Nile.	,,
76. Ad.	Luxor.	Y. Burges, Esq. (P.).
77–86. Yg.	Near Luxor.	L. Loat, Esq. (C.).
87–106. Yg.	Canal at Thebes.	,,
107–126. Yg.	Between Luxor and Assuan.	,,
127–134. Ad., hgr., & yg.	Near Assuan.	,,
135. Ad.	Abu Hor, Upp. Nile.	,,
136–138. Ad.	Mirrwau and El Maharraka, Upp. Nile.	,,
139–141. Ad. & hgr.	Anebi and Abu Simbal, Upp. Nile.	,,
142, 143–145. Ad. & yg.	Wady Halfa, Upp. Nile.	,,
146–149. Hgr. & yg.	Kosheh, Upp. Nile.	,,
150, 151–155. Ad. & yg.	Khartum.	J. Petherick, Esq. (C.).
156–159. Ad. & yg.	Wad Medine, Blue Nile.	L. Loat, Esq.
160–161. Ad. & yg.	Roseires, Blue Nile.	Capt. S. Flower (P.).

162–163. Hgr.	Nur-ed-Daim and Kaka, White Nile.	L. Loat, Esq. (C.).
164. Ad.	Gharb-el-Aish, White Nile.	„
165. Yg.	Fashoda, White Nile.	„
166–169. Yg.	Between Khartum and Sobat.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
170. Ad.	Polkom, Baro R.	„
171–175. Ad.	Mouth of L. No.	L. Loat, Esq. (C.).
176. Ad.	Gondokoro.	„
177–179. Hgr.	Sagan R. (L. Rudolf).	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
180–182. Hgr.	L. Gandjule (Margherita).	„
183. Hgr.	L. Stephanie.	Dr. Donaldson Smith (C.).
184. Ad., type of *S. smithii*.	„	„
185. Yg.	Komadugu R., L. Chad.	Paris Museum (E.).
186–188. Ad.	St. Louis, Senegal.	M. P. Delhez (C.).
189–191. Ad., hgr., & yg.	Kaëdi, „	„
192. Hgr.	Senegal.	

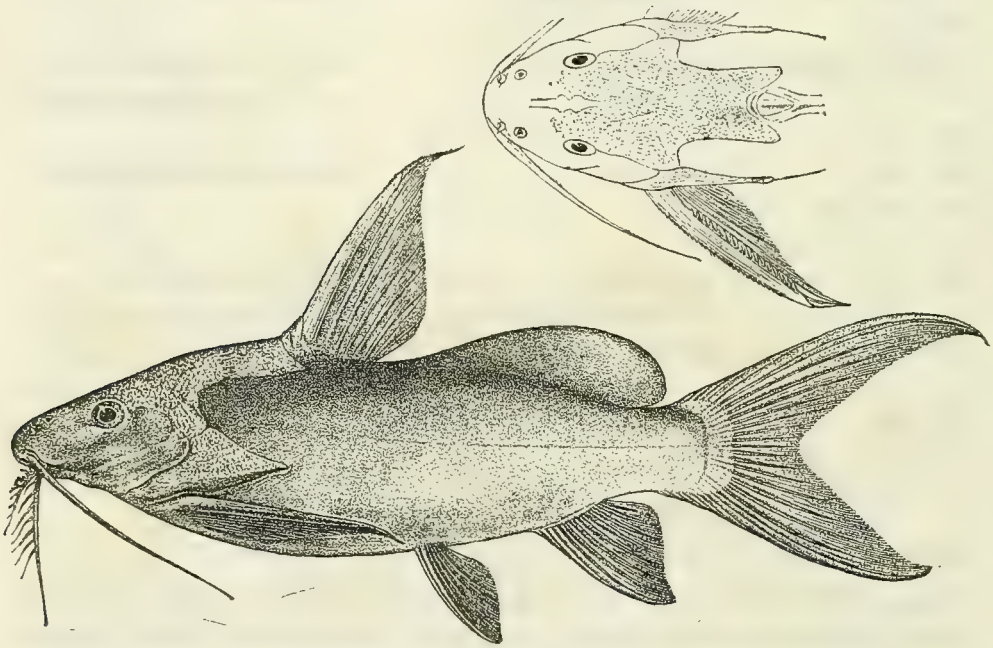
7. SYNODONTIS GAMBIENSIS.

Günth. Cat. Fish. v. p. 214 (1864).

Depth of body 3 to 4 times in total length, length of head $3\frac{1}{3}$ to $3\frac{3}{4}$ times. Head $1\frac{1}{5}$ to $1\frac{1}{3}$ times as long as broad, rugose above behind snout, which is rounded or obtusely pointed and as long as or a little longer than postocular part of head; eye supero-lateral, 4 (young) to $5\frac{1}{2}$ times in length of head, $1\frac{1}{2}$ to $2\frac{1}{3}$ times in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth not $\frac{1}{2}$ diameter of eye, 20 to 35 in number. Maxillary barbel with a narrow marginal membrane at base, 1 to $1\frac{2}{5}$ times length of head, reaching between anterior fourth and middle of pectoral spine; outer mandibular barbel about twice as long as inner, former with long, slender branches, latter with shorter branches, with tubercular ramifications. Gill-openings not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{1}{3}$ to $1\frac{3}{5}$ times as long as broad, with posterior processes pointed or rounded. Humeral process longer than broad, without or with very obtuse keel, sharply pointed, not extending quite so far back as occipito-nuchal process. Dorsal I 7; spine nearly as long as head, straight or feebly curved, usually terminating in a rather

long filament, striated and sharp-edged or very finely granulate in front, feebly serrated behind. Adipose dorsal 3 to 4 times as long as deep, $2\frac{1}{2}$ to 5 times as long as its distance from rayed dorsal. Anal IV 8–9, pointed in front. Pectoral spine as long as or slightly longer than head, not reaching ventral, moderately or rather strongly serrated on outer border, very strongly on inner. Ventral usually reaching anal. Caudal

Fig. 307.



Synodontis gambiensis.
Gambia. $\frac{1}{2}$.

deeply forked, upper lobe the longer and more or less produced into a filament. Caudal peduncle as long as deep or deeper than long. Uniform brown above, white beneath; barbels white; fins often blackish.

Total length 240 millim.

Gambia to Niger, Chad Basin.

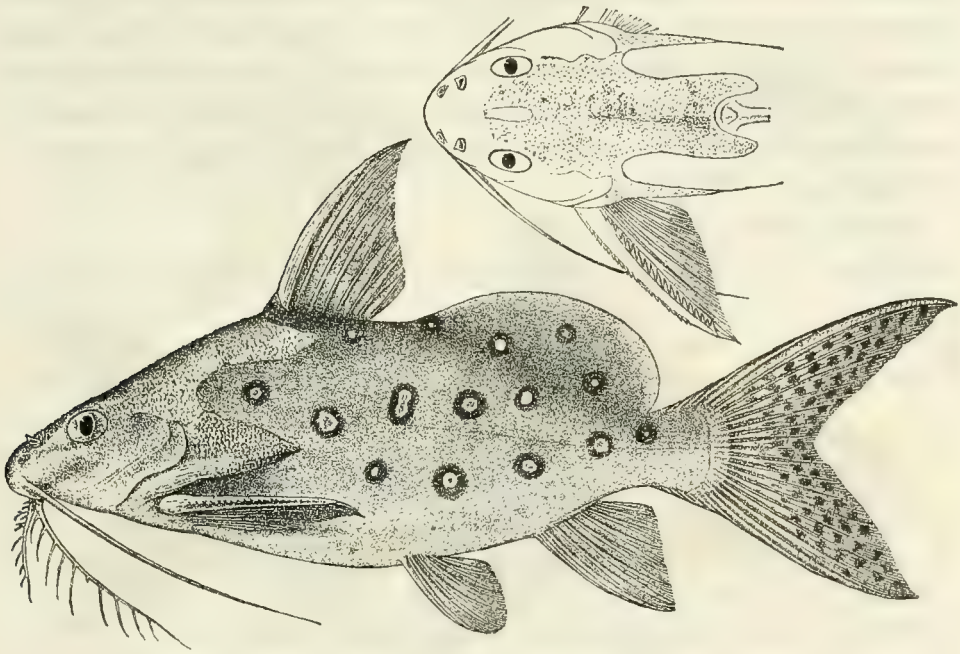
1. Type, bad state.	Gambia.	Lord Derby (P.).
2–10, 11. Ad., hgr., & skel.	,,	J. S. Budgett, Esq. (P.).
12–14. Ad. & yg.	Lagos.	Sir A. Moloney (P.).
15–17. Yg.	Ogun R. at Aro.	Major G. E. Bruce (P.).
18. Hgr.	Jebba, Upper Niger.	C. H. Firmin, Esq. (P.).
19. Ad.	Mureji, ,,	J. S. Budgett, Esq. (P.).
20. Ad.	Assay, Lower Niger.	,,
21–22. Ad. & hgr.	,, ,,	Dr. W. J. Ansorge (C.).
23–25. Ad., hgr., & yg.	Fort Lamy, Shari R.	Capt. G. B. Gosling (P.).
26. Ad., skin.	Lake Chad.	,,

8. SYNODONTIS OCELLIFER.

Bouleng. Proc. Zool. Soc. 1900, p. 514.

Depth of body 3 to $3\frac{1}{3}$ times in total length, length of head $3\frac{1}{3}$ to $3\frac{1}{2}$ times. Head a little longer than broad, rugose above behind snout,

Fig. 308.



Synodontis ocellifer.
Type. $\frac{3}{5}$.

which is obtusely pointed and considerably shorter than postocular part of head; eye supero-lateral, 5 times in length of head, $1\frac{2}{3}$ to 2 times in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth about $\frac{1}{6}$ diameter of eye, 20 to 30 in number. Maxillary barbel with a very narrow marginal membrane at base, $1\frac{1}{2}$ to $1\frac{3}{4}$ times length of head, reaching between middle and extremity of pectoral spine; mandibular barbels with long slender branches, outer $1\frac{2}{3}$ to 2 times as long as inner. Gill-openings not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, with obtuse or rounded posterior processes. Humeral process longer than broad, granulate, without keel, sharply pointed, not extending quite so far back as occipito-nuchal process.

Dorsal I 7; spine a little shorter than head, curved, striated, smooth in front, rather feebly serrated behind. Adipose dorsal 4 to 5 times as long as deep, 4 to 6 times as long as its distance from rayed dorsal. Anal IV 7–8, rounded or obtusely pointed in front. Pectoral spine nearly as long as head, sometimes reaching ventral, feebly serrated on outer border, strongly on inner. Ventral reaching anal or narrowly separated from it. Caudal deeply forked, upper lobe the longer. Caudal peduncle as long as deep. Grey-brown above and on the sides, white beneath; body and adipose fin with large black-and-white ocellar spots or round black spots disposed with greater or less regularity at considerable intervals; caudal fin with numerous small round blackish spots.

Total length 490 millim.

Gambia, Niger.

1–2. Types.	Kunchow Creek, Gambia.	J. S. Budgett, Esq. (P.).
3. Skel.	,, ,,	,,
4–6. Ad.	Mureji, Upp. Niger.	,,
7. Ad.	Jebba, ,,	C. H. Firmin, Esq. (P.).

9. SYNODONTIS FRONTOSUS.

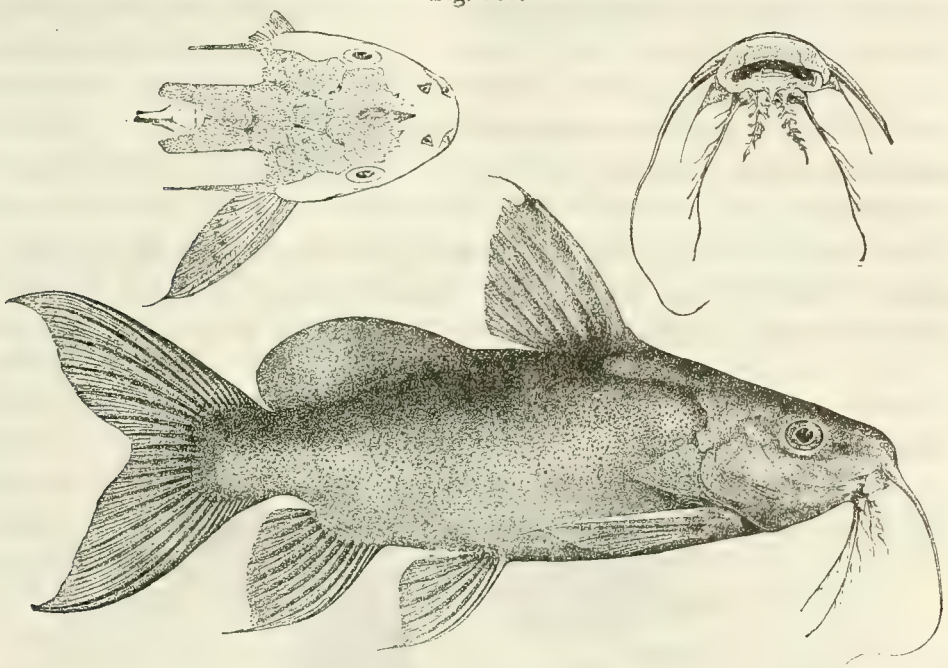
Vaill. C. R. Soc. Philom. 1895, p. 48, and N. Arch. Mus. (3) vii. pl. x. fig. 8, & viii. 1896, p. 147; Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 566, and Fish. Nile, p. 358, pl. lxv. (1907).

Synodontis citernii, Vincig. Ann. Mus. Genova, (2) xix. 1898, p. 247.

Depth of body 3 to $3\frac{2}{3}$ times in total length, length of head 3 to $3\frac{1}{2}$ times. Head $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as broad, rugose above, the rugosities extending more or less on the snout, which is rounded and as long as postocular part of head; eye supero-lateral, 4 (young) to 6 times in length of head, $1\frac{2}{3}$ to 3 times in width of interocular region; occiput simply convex. Mouth with moderately developed lips; præmaxillary teeth forming a short and broad band; movable mandibular teeth not more than $\frac{1}{2}$ diameter of eye, 33 to 48 in number. Maxillary barbel with a rather narrow but very distinct marginal membrane in its proximal fourth, $1\frac{1}{5}$ to $1\frac{3}{4}$ times length of head, reaching middle or end of pectoral spine; outer mandibular barbel $\frac{1}{2}$ or not quite $\frac{1}{2}$ length of inner, former with long, slender branches, latter with tubercular ramifications. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, with pointed or truncated posterior processes. Humeral process a little longer than broad, flat or with a very obtuse keel, sharply pointed, usually not extending so far

as the occipito-nuchal process. Dorsal I 7 ; spine $\frac{3}{4}$ to once length of head, feebly curved, smooth in front, rather strongly serrated behind. Adipose dorsal $2\frac{1}{2}$ to 4 times as long as deep, 3 to $4\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal IV 8–9, acutely pointed in front. Pectoral spine as long as or a little shorter than dorsal, not reaching ventral, outer border distinctly serrated in young, smooth or very feebly

Fig. 309.



Synodontis frontosus.
L. No (F. N.). $\frac{1}{3}$.

serrated in adult, inner border strongly serrated. Ventral acutely pointed and often produced into a short filament, reaching origin of anal or beyond. Caudal deeply forked, upper lobe the longer. Caudal peduncle deeper than long. Grey-brown to blackish above and below, lips white ; young with the body and dorsal fins spotted with black, with some whitish markings at the base of the caudal ; adult uniform or minutely speckled with black.

Total length 320 millim.

White Nile, Bahr-el-Gebel, Victoria Nile, Omo, Lake Rudolf.—Type in Paris Museum.

1. Hgr.	Goz abu Gumah, White Nile.	L. Loat, Esq. (C.).
2. Ad.	Gharb-el-Aish,	,,	,,
3–4. Hgr.	Fashoda,	,,	,,

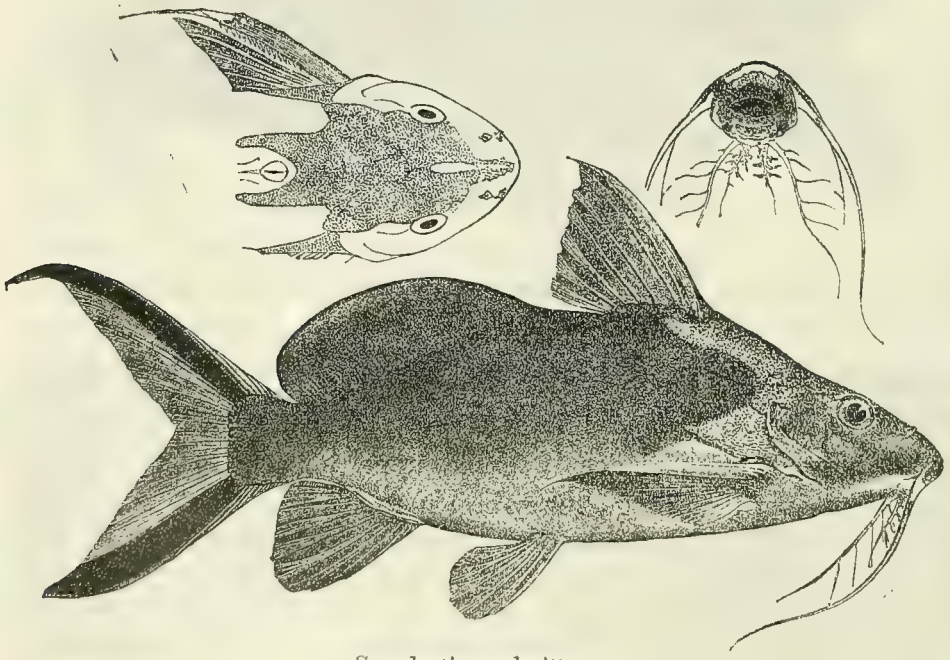
5–8. Hgr. & yg.	Between Khartum and the Sobat.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
9. Ad.	Bahr Zeraf.	Capt. S. Flower (P.).
10. Skel.	Near Tonga, White Nile.	L. Loat, Esq. (C.).
11–14. Ad. & hgr.	Mouth of L. No.	,,
15–16, Ad.	Gondokoro, Bahr-el-Gebel.	,,
17. Ad.	Fajao, Victoria Nile.	J. S. Budgett, Esq. (P.).
18. Ad.	Omo R.	Dr. Donaldson Smith (C.).
19–21. Ad. & hgr.	L. Rudolf at Galeba.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).

10. SYNODONTIS CAUDOVITTATUS.

Bouleng. Ann. & Mag. N. H. (7) viii. 1901, p. 10, and Fish. Nile, p. 361, pl. lxvi. (1907).

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head, $3\frac{1}{3}$ to $3\frac{2}{3}$ times. Head a little longer than broad, rugose, granulate above; snout rounded, as long as or slightly longer than postocular part of

Fig. 310.



Synodontis caudovittatus.
Type (F. N.). $\frac{1}{2}$.

head; eye supero-lateral, $4\frac{1}{3}$ to 5 times in length of head, 2 to $2\frac{1}{2}$ times in width of interorbital region; lips moderately developed; præmaxillary teeth forming a short, broad band; movable mandibular teeth

not $\frac{1}{2}$ diameter of eye, 33 to 38 in number. Maxillary barbel without or with a mere rudiment of a marginal membrane, $1\frac{1}{5}$ to $1\frac{1}{2}$ times as long as head, reaching middle of posterior fourth of pectoral spine; outer mandibular barbel twice or a little more than twice as long as inner, former with long slender branches, latter with tubercular ramifications. Gill-openings not extending downwards beyond root of pectoral spine. Occipito-nuchal shield granulate like the occiput, obtusely tectiform, with pointed or truncate posterior processes. Humeral process flat, granulate, a little longer than broad, sharply pointed, extending as far back as occipito-nuchal process, or not quite so far. Dorsal I 7; spine feebly curved, as long as or a little shorter than head, smooth or very finely serrated in front, feebly serrated behind, with short or rather long filamentous prolongation. Adipose dorsal 3 to 4 times as long as deep, $3\frac{1}{2}$ to 5 times as long as its distance from rayed dorsal. Anal IV 8, rounded. Pectoral spine as long as or a little shorter than head, feebly but distinctly serrated on the outer edge, very strongly on inner, reaching or nearly reaching ventral; latter rounded, extending to or slightly beyond origin of anal. Caudal deeply forked, upper lobe the longer. Caudal peduncle deeper than long. Grey, tinged with olive on the head and back; fins dark, except the spines and their filaments, which are whitish; caudal fin greyish white, with a deep black band along each lobe; barbels white.

Total length 240 millim.

White Nile.

1. Type.	Mouth of Lake No.	L. Loat, Esq. (C.).
2. „	Kawa.	„
3. „	Nur ed Daim.	„

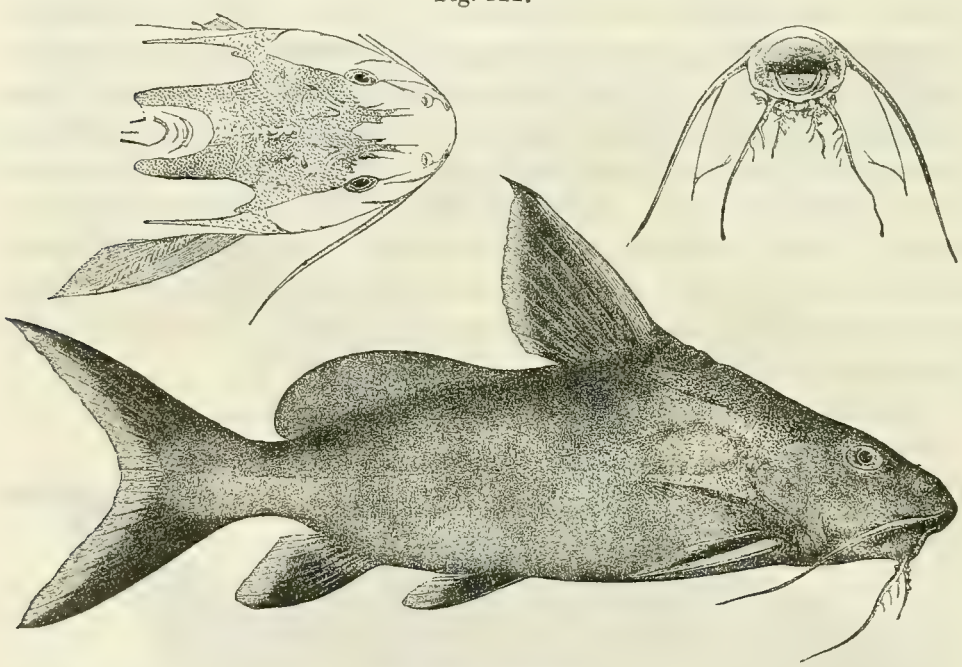
11. SYNODONTIS GRANULOSUS.

Boulenger. Ann. & Mag. N. H. (7) vi. 1900, p. 480, Poiss. Bass. Congo, p. 308 (1901), and Tr. Zool. Soc. xvi. 1901, p. 149, pl. xvi.

Depth of body equal to length of head, 3 to $3\frac{1}{2}$ times in total length. Head not or but slightly longer than broad, covered with granular asperities from between the eyes; snout rounded, as long as postocular part of head; eye supero-lateral, $5\frac{1}{2}$ to 6 times in length of head, $2\frac{1}{2}$ to $2\frac{2}{3}$ times in interorbital width; lips moderately developed; præmaxillary teeth forming a short, broad band; movable mandibular teeth barely $\frac{1}{3}$ diameter of eye, 40 to 42 in number. Maxillary barbel without marginal membrane, as long as or a little longer than head, not extending beyond

auterior third of pectoral spine; mandibular barbels with short branches, especially near base, where they are tubercular, outer 3 times as long as inner. Gill-openings not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like occiput, tectiform, a little longer than broad, with rounded posterior processes. Humeral process rough with granular asperities, keeled, narrow, sharply pointed, extending nearly as far back as occipito-nuchal shield. Skin of whole body, including adipose fin, with small, closely-set, granular papillæ. Dorsal I 7; spine feebly curved, a little shorter than head, striated, smooth in front, serrated behind. Adipose dorsal 4 times as long as deep, $2\frac{1}{2}$ to $3\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal III 8, rounded. Pectoral

Fig. 311.



Synodontis granulosus.
Type (Tr. Z. S. 1901). $\frac{1}{2}$.

spine as long as dorsal, feebly serrated on outer border, strongly on inner, not reaching ventral. Ventral not reaching anal. Caudal deeply notched. Caudal peduncle a little longer than deep. Olive above, yellowish beneath; dorsal, anal, and paired fins black in front, orange behind; caudal black, with a broad orange posterior margin.

Total length 230 millim.

Lake Tanganyika.

1–3. Types. North end of L. Tanganyika. Prof. J. E. S. Moore (C.).

12. SYNODONTIS ZAMBESENSIS.

Peters, Mon. Berl. Ac. 1852, p. 682 ; Günth. Cat. Fish. v. p. 214 (1864) ; Peters, Reise Mossamb. iv. p. 31, pl. v. figs. 2 & 3 (1868) ; Vaill. N. Arch. Mus. (3) viii. 1896, p. 126 ; Pfeff. Thierw. O.-Afr., Fische, p. 37 (1896) ; Bouleng. Poiss. Bass. Congo, p. 314 (1901).

Synodontis gambiensis, part., Günth. & Playf. Fish. Zanzib. p. 115, pl. xvii. fig. 1 (1866) ; Vaill. t. c. p. 155.

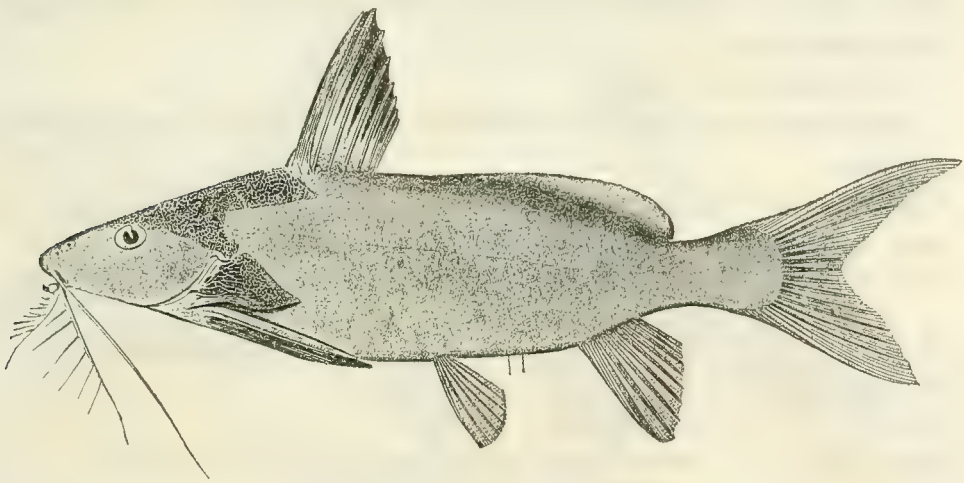
? *Synodontis zanzibaricus*, Peters, Mon. Berl. Ac. 1868, p. 600 ; Vaill. t. c. p. 157.

Synodontis punctulatus, Günth. Proc. Zool. Soc. 1889, p. 71, and 1896, p. 223 ; Vaill. t. c. p. 138.

Synodontis zambezensis rukwaensis, Hilgend. & Pappenh. Sitzb. Ges. naturf. Fr. Berl. 1903, p. 267.

Synodontis nyassæ, Keilhack, Sitzb. Ges. naturf. Fr. Berl. 1908, p. 168.

Fig. 312.



Synodontis zambesensis.
Type, after Peters (Reise Mossamb.). $\frac{1}{2}$.

Depth of body $3\frac{4}{5}$ to 5 times in total length, length of head $3\frac{1}{3}$ to 4 times. Head $1\frac{1}{8}$ to $1\frac{1}{4}$ times as long as broad, rugose above behind snout, which is rounded and as long as or slightly longer than postocular part of head ; eye supero-lateral, 4 (young) to 7 times in length of head, $1\frac{1}{2}$ to 3 times in interorbital width ; lips moderately developed ; præmaxillary teeth forming a short and broad band ; movable mandibular teeth not more than about $\frac{1}{2}$ diameter of eye, 20 to 35 in number. Maxillary barbel with a narrow marginal membrane at base, 1 to $1\frac{1}{3}$ times length of head, reaching between anterior fourth and posterior third of pectoral spine ; outer mandibular barbel about twice as long as

inner, both with long slender branches without ramifications, or inner with a few tubercular ramifications. Gill-openings not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, with pointed posterior processes. Humeral process much longer than broad, not distinctly keeled, sharply pointed, extending as far back, or not quite so far back, as occipito-nuchal process. Dorsal I 7 ; spine $\frac{1}{2}$ to once length of head, feebly curved, striated and sharp-edged in front, rather feebly serrated behind. Adipose dorsal 3 to $4\frac{1}{2}$ times as long as deep, $1\frac{1}{3}$ to $2\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal IV–V 7–8, obtusely pointed in front. Pectoral spine $\frac{2}{3}$ to once length of head, not reaching ventral, outer border feebly, inner border strongly serrated. Ventral not reaching anal. Caudal deeply forked, upper lobe the longer. Caudal peduncle as long as deep or a little longer than deep. Brown or olive, uniform or dotted with black, or with larger round black spots.

Total length 230 millim.

East Africa, from the Webi Shebeli to the Zambesi.—Types in Berlin Museum.

1. Ad.	Webi Shebeli.	Dr. Donaldson Smith (C.).
2–6. Ad.	Ngatana, Tana R.	Prof. J. W. Gregory (P.).
7–8. Ad., types of *S. punctulatus*.	Ruva R., Arusha district.	F. J. Jackson, Esq. (P.).
9. Ad.	Pangani R.	Sir Lambert Playfair (P.).
10. Ad., skin.	,,	,,
11. Ad.	Zanzibar Coast.	,,
12–15. Hgr.	Stream running into L. Namaramba, 20 m. E. of L. Nyassa, 3000 ft.	Capt. C. Percival (P.).
16. Hgr.	L. Nyassa.	Mr. J. A. Williams (C.).
17–19. Ad.	,,	Prof. J. E. S. Moore (C.).
20–21. Hgr. & yg.	,,	Dr. W. A. Cunnington (C.).
22. Ad.	Zambesi below Victoria Falls.	Dr. J. D. F. Gilchrist (P.).

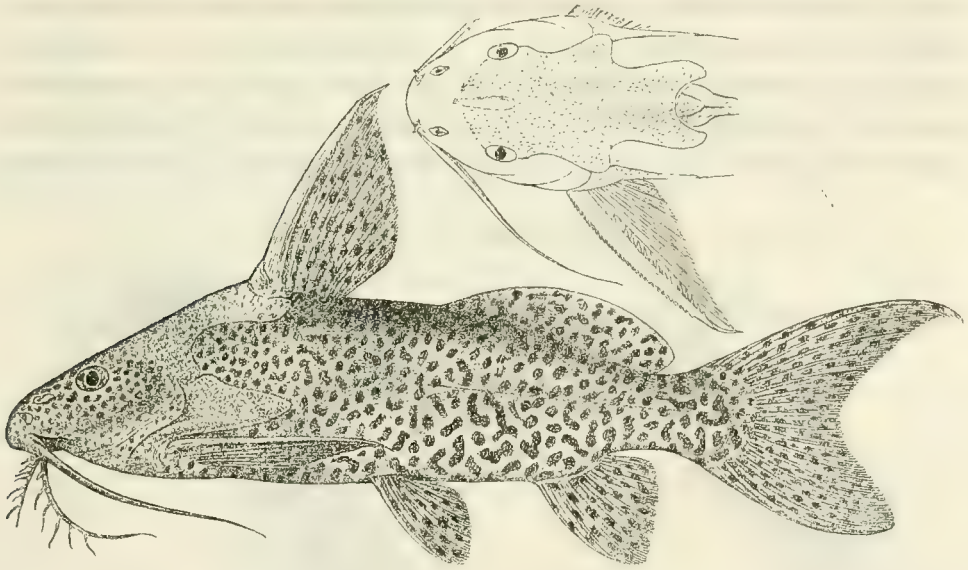
13. SYNODONTIS NIGROMACULATUS.

Bouleng. Ann. & Mag. N. H. (7) xvi. 1905, p. 645.

Depth of body equal to length of head, 4 times in total length. Head $1\frac{1}{6}$ times as long as broad, feebly rugose above behind snout, which is rounded and as long as postocular part of head ; eye supero-lateral, 6 times in length of head, $2\frac{1}{2}$ times in interorbital width ; lips moderately developed ; præmaxillary teeth forming a short and broad band ; movable

mandibular teeth not quite $\frac{1}{2}$ diameter of eye, about 30 in number. Maxillary barbel with a narrow marginal membrane at base, $1\frac{1}{3}$ times length of head, reaching a little beyond middle of pectoral spine; outer mandibular barbel about twice as long as inner, both with long slender branches without ramifications, except at the base of the inner, where they are more tubercular. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{1}{3}$ times as long as broad, with obtuse posterior processes. Humeral process much longer than broad, not keeled, pointed, extending as far back as occipito-nuchal process.

Fig. 313.



Synodontis nigromaculatus.
Type. $\frac{1}{2}$.

Dorsal I 7; spine as long as head, nearly straight, smooth in front, rather feebly serrated behind. Adipose dorsal 4 times as long as deep, $2\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal IV 7, obtusely pointed in front. Pectoral spine as long as head, strongly serrated on both sides, nearly reaching ventral. Ventral not reaching anal. Caudal deeply forked, upper lobe the longer. Caudal peduncle a little longer than deep. Greyish above, white beneath, covered all over with round black spots, some of which, especially on the posterior part of the body, are confluent into vermicular lines.

Total length 210 millim.

Lake Bangwelu.

1. Type. L. Bangwelu. F. H. Melland, Esq. (P.).

14. SYNODONTIS MELANOSTICTUS.

Bouleng. Trans. Zool. Soc. xvii. 1906, p. 553, pl. xxxiv.

Depth of body 4 times in total length, length of head $3\frac{2}{5}$ to 4 times. Head as long as broad or slightly longer than broad, strongly rugose above; snout rounded or obtusely pointed, as long as or slightly longer than postocular part of head; eye supero-lateral, 6 to $6\frac{1}{2}$ times in length of head, $2\frac{1}{3}$ to $2\frac{1}{2}$ times in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth not quite $\frac{1}{2}$ diameter of eye, 30 to 40 in number. Maxillary barbel with a narrow marginal membrane at base, $1\frac{1}{4}$ to $1\frac{1}{3}$ times length of head, reaching anterior third on middle of pectoral spine; outer mandibular barbel $2\frac{1}{2}$ to 3 times as long as inner, both with long slender branches without ramifications. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{1}{5}$ to $1\frac{1}{3}$ times as long

Fig. 314.

Synodontis melanostictus.
Type (Tr. Z. S. 1906). $\frac{1}{2}$.

as broad, with rounded or truncate posterior processes. Humeral process much longer than broad, not distinctly keeled, sharply pointed,

extending as far back, or not quite so far back, as occipito-nuchal process. Short villosities on sides of body. Dorsal I 7; spine as long as or slightly shorter than head, feebly curved, front edge sharp or granular, rather strongly serrated behind. Adipose dorsal 4 to 5 times as long as deep, 2 to $2\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal IV 7, obtusely pointed in front. Pectoral spine as long as head, nearly reaching ventral, strongly serrated on both sides. Ventral not reaching anal. Caudal deeply forked, upper lobe the longer. Caudal peduncle as long as deep. Grey or dark brown above, pale brown or whitish beneath, everywhere closely dotted with black.

Total length 320 millim.

Lakes Tanganyika, Bangwelu, and Mweru; Upper Zambesi.

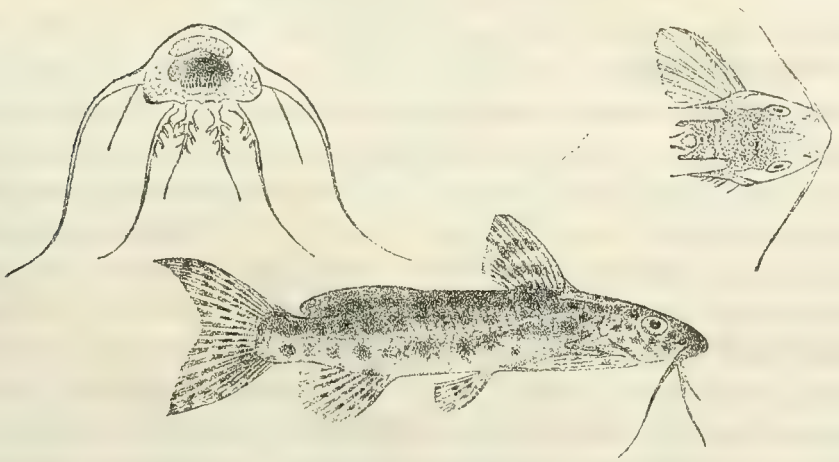
1. Type.	Lofu, L. Tanganyika.	Dr. W. A. Cunnington (C.).
2. Ad.	L. Bangwelu.	F. H. Melland, Esq. (P.).
3. Ad.	L. Mweru.	Sir A. Sharpe (P.).
4. Ad.	Maramba R., Upper Zambesi.	T. Codrington, Esq. (P.).

15. SYNODONTIS MULTIMACULATUS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 43, pl. xii. fig. 1 (1902).

Depth of body $5\frac{1}{3}$ times in total length, length of head 4 times.

Fig. 315.



Synodontis multimaculatus.
Type (A. M. C.).

Head $1\frac{1}{4}$ times as long as broad, rugose from between the eyes; snout rounded, as long as postocular part of head; eye supero-lateral, 4 times in length of head, $1\frac{1}{2}$ times in interorbital width; lips moderately

developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth $\frac{1}{3}$ diameter of eye, about 30 in number. Maxillary barbel not fringed, as long as head, reaching middle of pectoral spine; outer mandibular barbel twice as long as inner, with a few simple, obtuse branches at the base; outer mandibular barbel with short, mostly bifid branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, simply convex, hardly longer than broad, with obtusely pointed posterior processes. Humeral process narrow, pointed, rugose, distinctly keeled, extending as far back as occipito-nuchal process. Dorsal I 7; spine a little shorter than head, striated, smooth in front, feebly serrated behind. Adipose dorsal 4 times as long as deep, $1\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal IV 7, rounded. Pectoral spine a little longer than dorsal, strongly serrated on both sides. Ventral not reaching anal. Caudal with moderately deep notch. Caudal peduncle as long as deep. Brown with large darker round spots; smaller spots on the ventral, anal, and caudal fins; large spots forming two series across the dorsal fin.

Total length 75 millim.

Ubanghi.—Type in Congo Museum, Tervueren.

16. SYNODONTIS MULTIPUNCTATUS.

Boulenger, Tr. Zool. Soc. xv. 1898, p. 24, pl. viii. and 1899, p. 95, and Poiss. Bass. Congo, p. 313 (1901).

Depth of body nearly equal to length of head, $3\frac{1}{4}$ to $3\frac{2}{3}$ times in total length. Head a little longer than broad, strongly granulate above from between the eyes; snout rounded, as long as or slightly longer than postocular part of head; eye supero-lateral, 4 to $4\frac{1}{2}$ times in length of head, $1\frac{1}{2}$ to 2 times in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth barely $\frac{1}{3}$ diameter of eye, 15 to 20 in number. Maxillary barbel not margined, as long as or a little longer than head, reaching between base and middle of pectoral spine; mandibular barbels with long slender branches without ramifications, outer twice as long as inner. Gill-opening not extending downwards beyond base of pectoral spine. Occipito-nuchal shield granulate, tectiform, about $1\frac{1}{2}$ times as long as broad, posterior processes pointed. Humeral process granulate, acutely pointed, at least twice as long as broad, not extending quite so far back as occipito-nuchal process. Dorsal I 7; spine straight, a little

shorter than head, striated, smooth in front, strongly serrated behind. Adipose dorsal 5 to 6 times as long as deep, 2 to 3 times as long as its distance from rayed dorsal. Anal III–IV 6–7, pointed in front. Pectoral spine nearly as long as head, smooth or feebly serrated on outer border, strongly on inner. Ventral not reaching anal. Caudal deeply notched. Caudal peduncle longer than deep. Pale reddish brown

Fig. 316.

Synodontis multipunctatus.
Type (Tr. Z. S. 1898). $\frac{1}{2}$.

above, covered with round blackish spots, which are smaller on the head than on the body; uniform white beneath; ventrals and anal yellow; dorsal and caudal broadly edged with yellow.

Total length 240 millim.

Lake Tanganyika.

1. Type.	Sumba.	Prof. J. E. S. Moore (C.).
2. Ad.	Kalambo.	,,
3–4. Ad.	Niamkolo.	Dr. W. A. Cunnington (C.).

17. SYNODONTIS VICTORIÆ.

Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 438, and Fish. Nile, p. 363, pl. lxvii. fig. 1 (1907).

Depth of body 4 to $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Head $1\frac{1}{3}$ times as long as broad, granulate above from between the eyes; snout rounded, as long as postocular part of head; eye supero-lateral, $5\frac{1}{3}$ to 6 times in length of head, $2\frac{1}{3}$ to $2\frac{1}{2}$ times in width

of interorbital region, which is slightly convex; occipital region convex; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth $\frac{1}{3}$ diameter of eye, 19 to 21 in number. Maxillary barbel with a narrow marginal membrane at base, nearly as long as head, extending to base of pectoral spine; mandibular barbels with slender simple branches, outer nearly twice as long as inner. Gill-opening not extending below base of pectoral fin. Occipito-nuchal shield simply convex, rugose and pitted, $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, ending in two blunt points. Humeral process covered with granular asperities, $1\frac{1}{2}$ times as long as broad, acutely pointed, not

Fig. 317.

Synodontis victoriæ.
Type (F. N.). $\frac{1}{2}$.

extending so far back as occipito-nuchal process. Dorsal I 6–7; spine straight, $\frac{3}{4}$ length of head, smooth in front, feebly serrated behind. Adipose dorsal 4 to 5 times as long as deep, $1\frac{2}{3}$ to 2 times as long as its distance from rayed dorsal. Anal IV 8. Pectoral spine a little shorter than head, not reaching ventral, feebly serrated on outer side, strongly on inner. Caudal deeply forked, upper lobe the longer. Caudal peduncle as long as deep or slightly longer. Brown above, white beneath, the brown parts with rather large round darker spots, which may be very indistinct.

Total length 250 millim.

Lake Victoria.

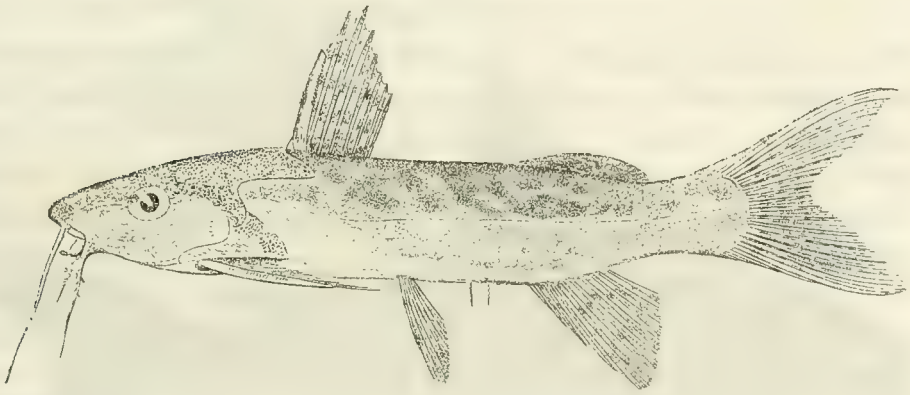
1. Type.	Entebbe.	Mr. E. Degen (C.).
2. Type.	Buganga.	,,

18. SYNODONTIS NEBULOSUS.

Peters, Mon. Berl. Ac. 1852, p. 682, and Reise Mossamb. iv. p. 28, pl. v. fig. 1 (1868).

Depth of body 5 times in total length, length of head $3\frac{2}{3}$ times. Head a little longer than broad, rugose above from between the eyes; snout as long as postocular part of head; eye supero-lateral, $4\frac{1}{2}$ times in length of head, twice in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth not $\frac{1}{2}$ diameter of eye, 18 in number. Maxillary

Fig. 318.



Synodontis nebulosus.
Type, after Peters (Reise Mossamb.). $\frac{2}{3}$.

barbel not margined, a little shorter than head, reaching a little beyond base of pectoral spine; outer mandibular barbels twice as long as inner, with short simple branches, inner with very short, bifid branches. Gill-opening not extending downwards beyond base of pectoral spine. Occipito-nuchal shield rugose like the occiput, as long as broad, posterior processes pointed. Humeral process not longer than broad, obtusely pointed, not extending so far back as occipito-nuchal process. Dorsal I 7; spine shorter than head, smooth in front, serrated behind. Adipose dorsal about 5 times as long as deep, as long as its distance from rayed dorsal. Anal IV 8, pointed in front. Pectoral spine shorter than head, feebly serrated on outer border, strongly on inner. Ventral nearly reaching anal. Caudal deeply notched. Caudal peduncle a little longer than deep. Yellowish green above, with ill-defined, irregular,

large blackish spots, yellowish white beneath; fins yellowish green with transverse series of black spots.

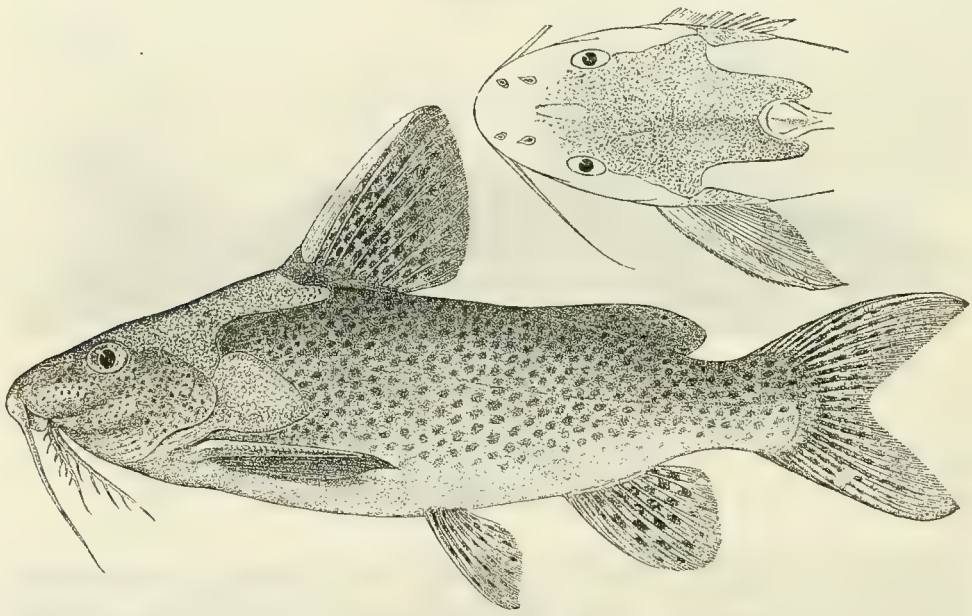
Total length 150 millim.

Lower Zambesi.—Type in Berlin Museum.

19. SYNODONTIS WOOSNAMI, sp. n.

Depth of body $3\frac{1}{2}$ times in total length, length of head $3\frac{2}{3}$ times. Head a little longer than broad, rugose above from between the eyes; snout as long as postocular part of head; eye supero-lateral, 6 times in length of head, twice in interorbital width; lips moderately developed;

Fig. 319.



Synodontis woosnami.
Type. $\frac{3}{5}$.

præmaxillary teeth forming a short and broad band; movable mandibular teeth $\frac{1}{3}$ diameter of eye, 20 in number. Maxillary barbel not margined, $\frac{4}{5}$ length of head, reaching a little beyond root of pectoral spine; mandibular barbels with long slender branches, outer $1\frac{1}{2}$ times as long as inner. Gill-opening not extending downwards beyond base of pectoral spine. Occipito-nuchal shield rugose like the occiput, a little longer than broad, posterior processes obtusely pointed. Humeral process slightly longer than broad, obtusely pointed, not extending so far back as occipito-nuchal process. Dorsal I 7; spine $\frac{5}{6}$ length of

head, slightly curved, smooth in front, feebly serrated behind. Adipose dorsal $3\frac{1}{2}$ times as long as deep, as long as its distance from rayed dorsal. Anal IV 8, rounded. Pectoral spine as long as dorsal, rather feebly serrated on outer border, strongly on inner. Ventral rounded, not reaching anal. Caudal deeply notched. Caudal peduncle a little longer than deep. Dark brown above, lighter beneath; back, sides, and fins closely dotted with black.

Total length 150 millim.

Lake Ngami district, Bechuanaland.

1. Type. Okovango R. R. B. Woosnam, Esq. (C.).

20. SYNODONTIS MARMORATUS.

Lönnb. Öfvers. Vet. Ak. Forh. Stockholm, 1895, p. 186.

Length of head $3\frac{1}{4}$ times in total length. Movable mandibular teeth half diameter of eye, 14 to 18 in number. Maxillary barbel longer than head, reaching middle of humeral process, not margined; mandibular barbels with short and broad branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield longer than broad. Humeral process more than twice as long as broad. Dorsal I 7; spine about half length of head, smooth in front, serrated behind. Adipose dorsal as long as or shorter than its distance from rayed dorsal. Anal 11–12. Pectoral spine shorter than head, strongly serrated on both sides. Ventral not reaching anal. Caudal deeply forked. Blackish brown, marbled with white; fins white, marbled with black.

Total length 52 millim.

Bonge, Cameroon.—Types in Stockholm Museum.

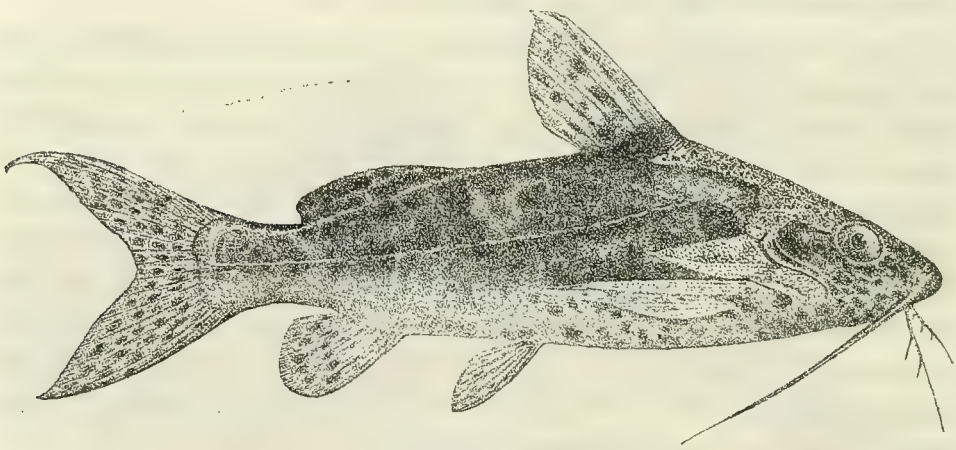
21. SYNODONTIS AFRO-FISCHERI.

Hilgend. Sitzb. Ges. naturf. Fr. Berl. 1888, p. 77; Pfeff. Thierw. O.-Afr., Fische, p. 37 (1896); Bouleng. Proc. Zool. Soc. 1901, ii. p. 161, and Fish. Nile, p. 364, pl. lxvii. fig. 2 (1907).

Depth of body $3\frac{1}{2}$ to $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Head $1\frac{1}{5}$ to $1\frac{1}{3}$ times as long as broad, granulate above, the granulate area usually extending on the snout to halfway between eye and nostrils; snout rounded, as long as or slightly shorter than post-ocular part of head; eye supero-lateral, 4 to 5 times in length of head, $1\frac{3}{4}$ to $2\frac{1}{3}$ times in interorbital width; lips moderately developed; præ-

maxillary teeth forming a short and broad band; movable mandibular teeth not half diameter of eye, 45 to 54 in number. Maxillary barbel without or with only a trace of marginal membrane, 1 to $1\frac{3}{5}$ times length of head, reaching between anterior and posterior third of pectoral spine; anterior barbel with slender branches, $1\frac{2}{3}$ to 2 times as long as inner, which bears shorter but ramified branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rugose and convex like the occiput, $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as broad, posterior processes pointed. Humeral process much longer than broad, feebly keeled, acutely pointed, extending as far back as occipito-nuchal process, or not quite so far. Skin villose on sides. Dorsal I 7;

Fig. 320.



Synodontis afro-fischeri.
Bunjako (F. N.). $\frac{2}{3}$.

spine straight or feebly curved, $\frac{2}{3}$ to once length of head, smooth in front, serrated behind. Adipose dorsal $3\frac{1}{2}$ to 4 times as long as deep, $1\frac{1}{3}$ to $2\frac{1}{3}$ times as long as its distance from rayed dorsal. Anal IV 7–8, rounded. Pectoral spine as long as or a little shorter than head, not reaching ventral, rather strongly serrated on outer edge, very strongly on inner. Ventral not reaching anal. Caudal deeply forked, upper lobe slightly the longer. Caudal peduncle a little longer than deep. Dark brown above and beneath, with some lighter, yellowish-brown marblings or wavy cross-bands and round blackish spots; fins grey, with transverse series of black spots sometimes forming cross-bars.

Total length 145 millim.

Lake Victoria.—Type in Berlin Museum.

1. Ad.	L. Victoria.	Mr. W. G. Doggett (C.); Sir H. H. Johnston (P.).
2–3. Ad.	Buganga.	Mr. E. Degen (C.).
4–13. Ad. & hgr.	Bunjako.	,,

22. SYNODONTIS FUELLEBORNI.

Hilgend. & Pappenh. Sitzb. Ges. naturf. Fr. Berl. 1903, p. 265.

Depth of body 4 times in total length, length of head $3\frac{1}{2}$ times. Head granulate above; snout obtusely conical, as long as postocular part of head; eye supero-lateral, 5 times in length of head, twice in interorbital width; 51 movable mandibular teeth. Maxillary barbel with distinct marginal membrane at base, reaching extremity of humeral process; outer mandibular barbel reaching base of pectoral spine, with moderately long, simple branches, inner shorter, with short and thick, feebly ramified branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield tectiform, with obtuse posterior processes. Humeral process triangular, keeled, not extending so far back as occipito-nuchal process. Dorsal I 7; spine a little shorter than head. Adipose dorsal about twice as long as its distance from rayed dorsal. Anal IV 8. Pectoral spine shorter than head, not reaching ventral, more strongly serrated on inner than on outer border. Ventral not reaching anal. Caudal deeply forked. Brownish, with irregular dark spots; fins with dark bands.

Total length 115 millim.

Lake Rukwa, east of Lake Tanganyika.—Type in Berlin Museum.

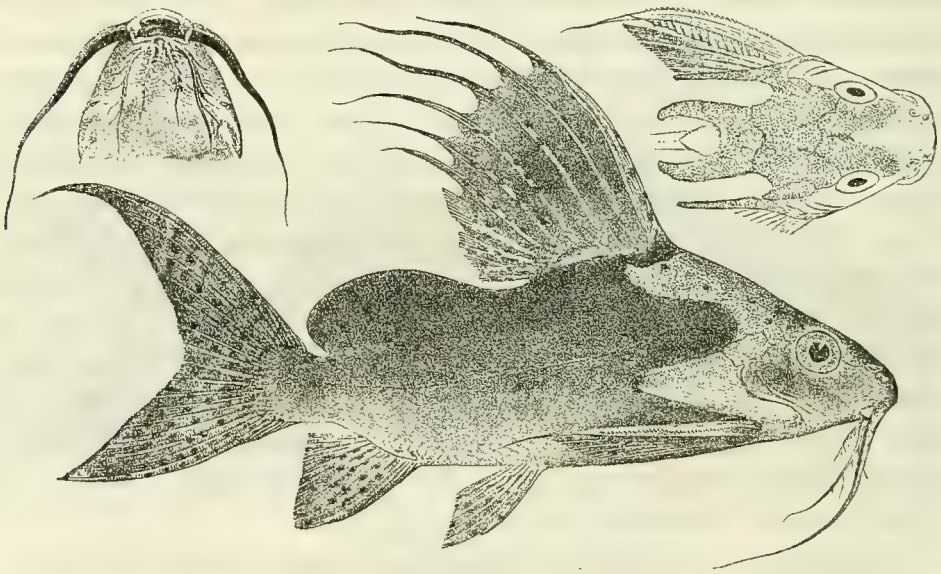
23. SYNODONTIS EUPTERUS.

Boulenq. Ann. & Mag. N. H. (7) viii. 1901, p. 11, and Fish. Nile, p. 369, pl. lxviii. (1907).

Depth of body 3 times in total length, length of head $3\frac{1}{2}$ to 4 times. Head a little longer than broad, rugose, granulate on vertex and occiput and in front of eyes; snout rounded, as long as postocular part of head; eye supero-lateral, $3\frac{2}{3}$ to 4 times in length of head, $1\frac{1}{2}$ to $1\frac{2}{3}$ times in interorbital width; lips rather feebly developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth barely $\frac{1}{4}$ length of eye, 45 to 50 in number. Maxillary barbel with a

well-developed marginal membrane at the base, $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as head, reaching anterior third or middle of pectoral spine; outer mandibular barbel about twice as long as inner, former with long slender branches, latter with tubercular ramifications. Gill-opening not extending downwards below base of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, with obtuse posterior processes. Humeral process flat, granulate, much longer than broad, obtuse-pointed, extending as far back as occipito-nuchal process, or not quite so far. Dorsal I 7; spine strong, feebly curved, longer than head, smooth in front, very feebly serrated behind, the

Fig. 321.



Synodontis eupterus.
Type (F. N.). $\frac{1}{2}$.

soft terminal part, as well as the extremity of the anterior branched rays, prolonged into a long filament, the second soft ray being more than twice as long as head. Adipose dorsal $2\frac{1}{2}$ to 3 times as long as deep, narrowly separated from rayed dorsal. Anal IV 8, pointed. Pectoral spine a little longer than head, moderately serrated on outer edge, with very strong serræ on inner side, not reaching ventral. Latter pointed, reaching origin of anal. Caudal deeply forked, upper lobe produced. Caudal peduncle a little deeper than long. Dark grey-brown (olive in life), with a few round blackish spots on the head,

back, and adipose fin; fins grey or olive, with numerous small round black spots; fringe of maxillary barbels black.

Total length 195 millim.

White Nile.

1. One of the types. Goz abu Gumah. L. Loat, Esq. (C.).

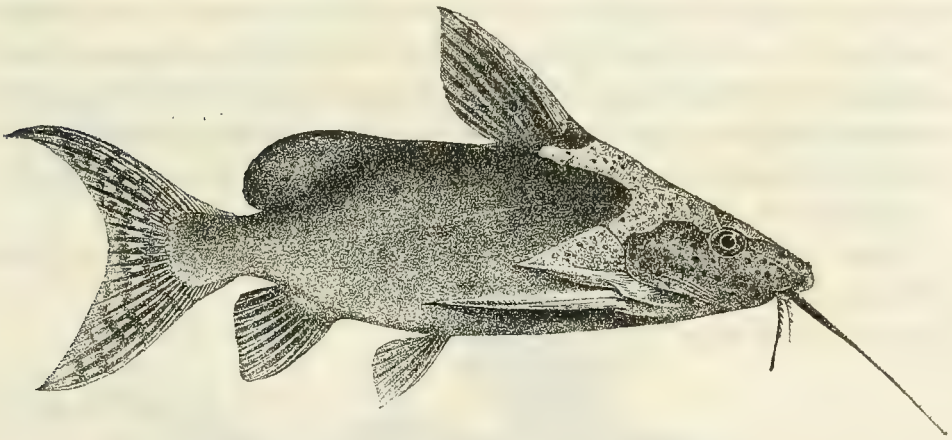
24. SYNODONTIS NIGRITA.

Cuv. & Val. Hist. Poiss. xv. p. 265, pl. cccexli. (1840); Günth. Cat. Fish. v. p. 214 (1864); Steind. Sitzb. Ak. Wien, lxi. i. 1870, p. 535; Vaill. N. Arch. Mus. (3) viii. 1896, p. 149, & vii. pl. xiii. fig. 1; Werner, Sitzb. Ak. Wien, cxv. i. 1906, p. 1141; Bouleng. Fish. Nile, p. 366, pl. lxxi. fig. 1 (1907).

Hemisynodontis nigrita, Bleek. Nederl. Tijdschr. Dierk. i. 1863, p. 55.

Depth of body 3 to $3\frac{3}{4}$ times in total length, length of head 3 to $3\frac{1}{2}$

Fig. 322.



Synodontis nigrita.
White Nile (F. N.). $\frac{2}{3}$.

times. Head a little longer than broad, rugose, granulate above from between the eyes; snout rounded, as long as postocular part of head; eye supero-lateral, 4 to $5\frac{1}{3}$ times in length of head, $1\frac{1}{2}$ to $2\frac{1}{2}$ times in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth not more than $\frac{1}{2}$ diameter of eye, 30 to 35 in number. Maxillary barbel with a broad marginal membrane in its basal third, 1 to $1\frac{2}{3}$ times length of head, reaching between anterior and posterior fourth of pectoral spine; outer mandibular barbel about twice as long as inner, both with short,

tubercular branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rugose like the occiput, convex or obtusely tectiform, $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as broad, posterior processes pointed or truncate. Humeral process much longer than broad, distinctly keeled, sharply pointed, extending as far as, and usually beyond, occipito-nuchal process. Dorsal I 7; spine straight or feebly curved, $\frac{3}{4}$ to once length of head, smooth in front, serrated behind. Adipose dorsal $2\frac{2}{3}$ to 3 times as long as deep, $1\frac{2}{3}$ to 2 times as long as its distance from rayed dorsal. Anal IV 8–9, rounded. Pectoral spine $\frac{3}{4}$ to once length of head, feebly serrated on outer edge, strongly on inner. Ventral reaching anal or not quite so far. Caudal deeply forked, upper lobe slightly the longer. Caudal peduncle as long as deep or a little longer. Brown or olive to blackish, with more or less numerous round black spots; fins greyish to blackish, caudal with transverse series of black spots or with black cross-bars. Young brown, with two or three irregular wavy, dark-edged light bands on the caudal portion of the body, and spotted all over with blackish, the spots sometimes forming cross-bands; a light, dark-edged streak from eye to end of snout; belly brown, with round darker spots; caudal fin whitish, with 3 to 5 very regular black transverse bands.

Total length 170 millim.

White Nile, Bahr-el-Gebel, Senegal, Gambia, Niger.—Type in Paris Museum.

1–10. Ad., hgr., & yg.	Fashoda, White Nile.	L. Loat, Esq. (C.).
11. Yg.	Polkom, Baro R. (Sobat).	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
12–13. Ad.	Tonga, White Nile.	L. Loat, Esq. (C.).
14. Ad.	Gondokoro, Bahr-el-Gebel.	„
15. Ad.	Wadelai, Albertine Nile.	J. S. Budgett, Esq. (P.).
16. Yg.	Kaëdi, Senegal.	M. P. Delhez (C.).
17–19. Ad.	McCarthy Id., Gambia.	J. S. Budgett, Esq. (P.).
20. Skel.	„ „	„
21–23. Ad.	Assay, Low. Niger.	„

Synodontis humeratus, Cuv. & Val. op. cit. xv. p. 264, is based on a coloured figure made by Rifaud in Upper Egypt. It appears to represent a fish similar to *S. nigrita*, but the short spine of the dorsal fin, serrated in front as well as behind, precludes its identification with that species.

Fig. 323.

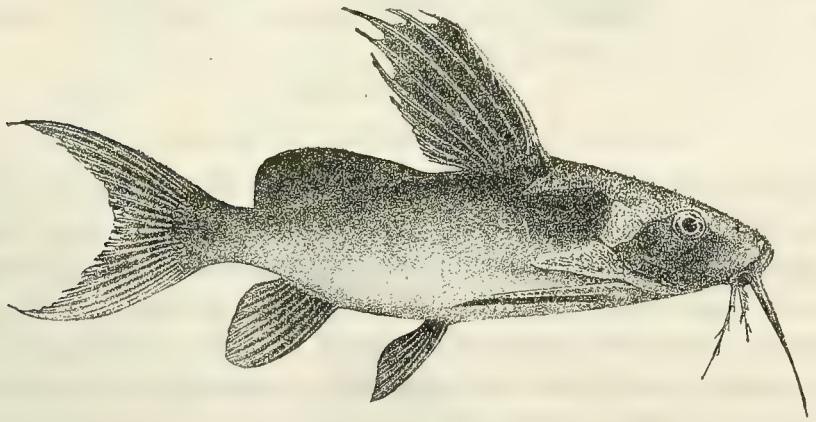
Synodontis humeratus.
Tracing of the original sketch, reduced to $\frac{1}{2}$. (After Vaillant.)

25. SYNODONTIS MELANOPTERUS.

Bouleng. Proc. Zool. Soc. 1902, ii. p. 327, pl. xxix. fig. 1.

Depth of body $3\frac{1}{4}$ to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{3}$ to $3\frac{2}{3}$ times. Head a little longer than broad, rugose above behind snout, which is obtusely pointed and slightly longer than postocular part of

Fig. 324.



Synodontis melanopterus.
Type (P. Z. S. 1902).

head; eye supero-lateral, $5\frac{1}{2}$ times in length of head, twice in inter-orbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth about $\frac{2}{5}$ diameter of eye, 35 to 40 in number. Maxillary barbel with a broad marginal

membrane, 1 to $1\frac{1}{3}$ times length of head, reaching between base and middle of pectoral spine; outer mandibular barbel about twice as long as inner, both with moderately long simple or more or less ramified branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rugose like the occiput, simply convex or obtusely tectiform, 1 to $1\frac{1}{3}$ times as long as broad, with posterior processes pointed or rounded. Humeral process longer than broad, granulate, feebly keeled, extending as far back as occipito-nuchal process. Dorsal I 7; spine as long as or shorter than head, feebly curved, striated, smooth in front, feebly serrated behind. Adipose dorsal $3\frac{1}{2}$ times as long as deep, 3 times as long as its distance from rayed dorsal. Anal III 8, rounded. Pectoral spine as long as or slightly shorter than head, not reaching ventral, strongly serrated on outer border, still more so on inner. Ventral reaching anal. Caudal deeply forked. Caudal peduncle as long as deep. Dark brown above and beneath; fins dark brown or black, with some light cross-bands in the young.

Total length 205 millim.

Lower Niger, Lagos.

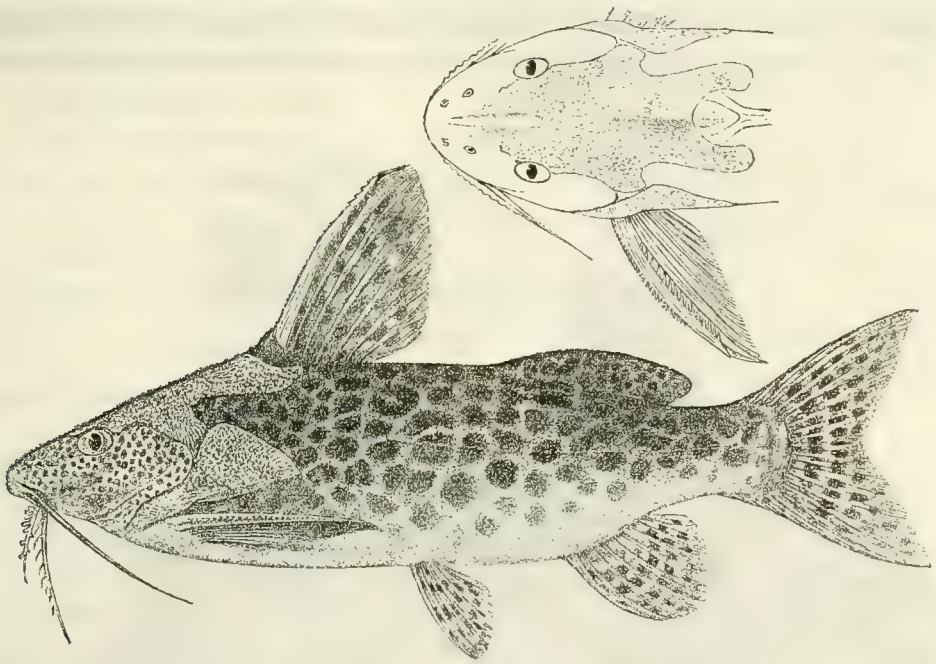
1–2. Hgr. & yg., types.	Oguta, Lower Niger.	Dr. W. J. Ansorge (C.).
3. Hgr.	Ossomari, „	„
4. Ad.	Ogun R. at Aro, near Abeokuta, Lagos.	Major G. E. Bruce (P.).

26. SYNODONTIS MACROSTIGMA, sp. n.

Depth of body $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{3}$ to $3\frac{2}{5}$ times. Head a little longer than broad, rugose above; snout rounded and as long as postocular part of head; eye supero-lateral, 6 to $6\frac{1}{2}$ times in length of head, twice or a little over twice in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth not quite $\frac{1}{2}$ diameter of eye, 20 to 26 in number. Maxillary barbel with a broad marginal membrane behind and a series of round warts in front, $\frac{4}{5}$ length of head, just reaching base of pectoral spine; mandibular barbels with short tubercular branches, outer not quite twice as long as inner. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, merely convex, as long as broad, posterior processes rounded. Humeral process a little longer than broad, triangular,

granulate, without keel, extending as far back as occipito-nuchal process. Dorsal I 7 ; spine as long as head, slightly curved, striated, smooth in front (except towards the end), serrated behind. Adipose dorsal 4 to $4\frac{1}{2}$ times as long as deep, $1\frac{1}{3}$ times as long as its distance from rayed dorsal. Anal IV 8, rounded. Pectoral spine shorter than dorsal, not reaching

Fig. 325.



Synodontis macrostigma.
Type. $\frac{3}{4}$.

ventral, rather strongly serrated on outer border, very strongly on inner. Caudal deeply forked. Caudal peduncle as long as deep. Brown above, lighter beneath ; back and sides with large round or oval blackish spots ; head and fins with smaller spots.

Total length 160 millim.

Lake Ngami district, Bechuanaland.

1–2. Types. Okovango R. R. B. Woosnam, Esq. (C.).

27. SYNODONTIS OBESUS.

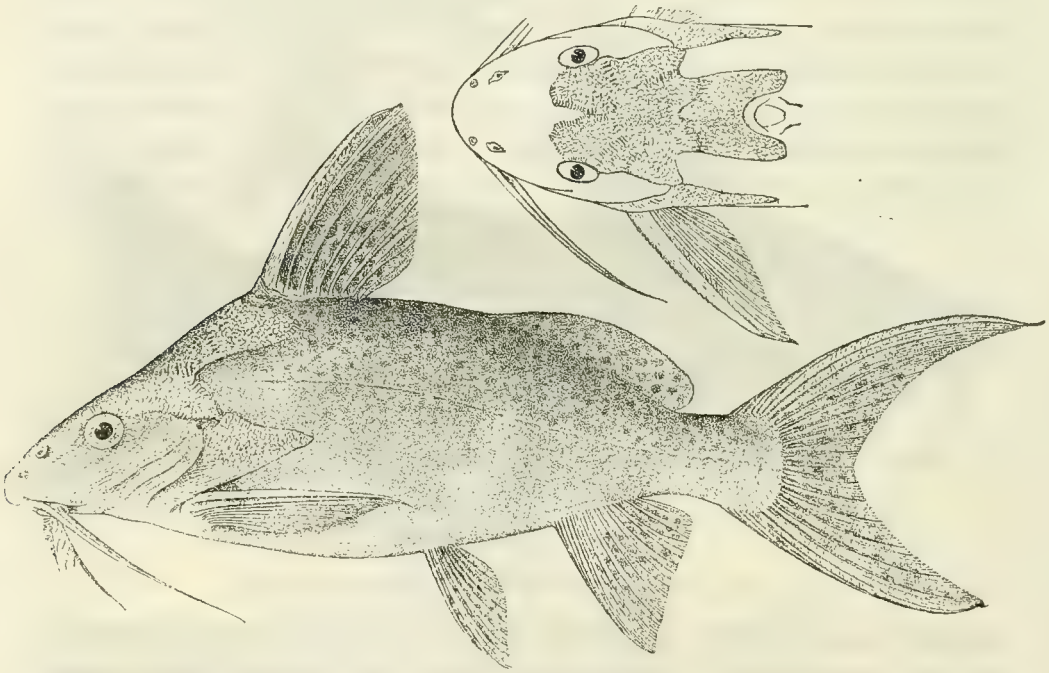
Synodontis serratus (non Rüpp.), Günth. Ann. & Mag. N. H. (6) xvii. 1896, p. 277.

Synodontis obesus, Bouleng. op. cit. (7) ii. 1898, p. 415.

Synodontis robbianus (non Smith), Günth. Proc. Zool. Soc. 1902, ii. p. 337.

Depth of body 3 to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Head as long as broad or a little longer than broad, rugose above behind snout, which is rounded or obtusely pointed and as long as or slightly longer than postocular part of head; eye supero-lateral, 5 to 6 times in length of head, 2 to $2\frac{1}{4}$ times in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth $\frac{1}{2}$ or not quite $\frac{1}{2}$ diameter of eye, 18 to 28 in number. Maxillary barbel with a broad marginal membrane, $1\frac{1}{6}$ to $1\frac{1}{3}$ times length of head, reaching between anterior third and

Fig. 326.



Synodontis obesus.
Type, Old Calabar. $\frac{1}{2}$.

middle of pectoral spine; outer mandibular barbel about twice as long as inner, former with moderately long simple branches, latter with shorter branches with tubercular ramifications. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, with posterior processes pointed or rounded. Humeral process longer than broad, granulate, without or with a very feeble keel, extending as far back as occipito-nuchal process. Dorsal I 7; spine $\frac{2}{3}$ to once length of head, more or less curved, striated, smooth in front,

feebly serrated behind. Adipose dorsal 3 to 4 times as long as deep, $1\frac{1}{2}$ to $2\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal IV 8–9, rounded or obtusely pointed in front. Pectoral spine nearly as long as dorsal, not reaching ventral, moderately or rather feebly serrated on outer border, very strongly on inner. Caudal deeply forked, upper lobe the longer and more or less produced into a filament. Caudal peduncle as long as deep or a little longer than deep. Brown above and beneath, spotted or dotted with darker, the spots more distinct in the young, in which the fins are whitish, with round black spots.

Total length 220 millim.

Gold Coast to Gaboon.

1–4. Hgr. & yg.	Offim R., Gold Coast.	R. B. N. Walker, Esq. (C.); Dr. A. Günther (P.).
5–6. Hgr.	Infoan, ,,	,,
7. Type.	Opobo R., Old Calabar.	Miss Kingsley (C.).
8. Ad.	Enyong R., ,,	Major W. A. C. Cockburn (P.).
9. Ad.	Kribi R., S. Cameroon.	G. L. Bates, Esq. (C.).
10–11. Types.	Gaboon.	

28. SYNODONTIS ROBBIANUS.

J. A. Smith, Proc. R. Soc. Edinb. viii. 1873, p. 92, fig.

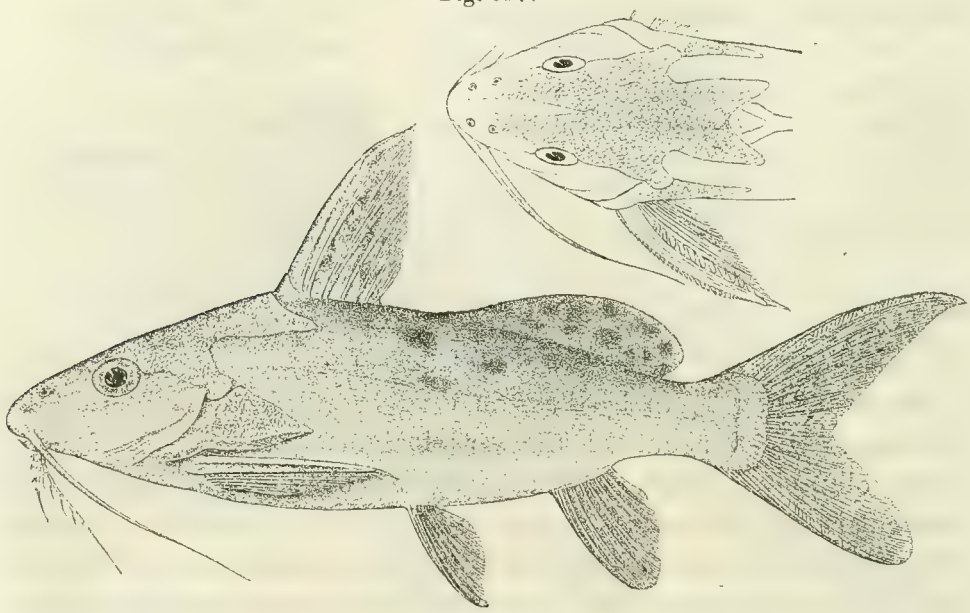
Depth of body $3\frac{1}{4}$ to $3\frac{2}{3}$ times in total length, length of head 3 to $3\frac{1}{2}$ times. Head about $1\frac{1}{4}$ times as long as broad, rugose above; snout obtusely pointed and as long as or slightly longer than postocular part of head; eye supero-lateral, 4 to 5 times in length of head, $1\frac{1}{2}$ to $1\frac{3}{4}$ times in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth not quite $\frac{1}{2}$ diameter of eye, 15 to 20 in number. Maxillary barbel with a broad marginal membrane, $1\frac{1}{4}$ to $1\frac{1}{2}$ times length of head, reaching middle or posterior third of pectoral spine; outer mandibular barbel about twice as long as inner, former with moderately long, slender branches, latter with short, tubercular branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{1}{5}$ to $1\frac{1}{4}$ times as long as broad, with pointed posterior processes. Humeral process $1\frac{1}{2}$ to 2 times as long as broad, granulate, keeled, extending as far back as occipito-nuchal process. Dorsal I 7; spine $\frac{2}{3}$ to $\frac{3}{4}$ length of head, feebly curved, striated, smooth in front, feebly serrated behind. Adipose dorsal $2\frac{1}{2}$ to $3\frac{1}{2}$ times as long as broad, $2\frac{1}{2}$ to $3\frac{1}{2}$ times as long as its

distance from rayed dorsal. Anal III–IV 8–9, obtusely pointed in front. Pectoral spine a little longer than dorsal, rather strongly serrated on outer border, very strongly on inner. Ventral not reaching anal. Caudal deeply forked, upper lobe the longer. Caudal peduncle a little longer than deep. Pale brown, blotched or mottled with darker; ventral and anal fins dark, dorsal and caudal lighter, spotted with dark brown; young with a light streak on each side of the snout, and regular black cross-bars on the dorsal, anal, and caudal fins.

Total length 120 millim.

Old Calabar and Lower Niger.

Fig. 327.



Synodontis robbianus.
Type.

1. Type.	Ikorofiong, Old Calabar R.	Dr. A. Robb (C.); Dr. J. A. Smith (P.).
2–6. Yg.	Oguta, Low. Niger.	Dr. W. J. Ansorge (C.).
7–9. Yg.	Abo, „	„
10. Yg.	Niger Delta.	Mr. J. Paul Arnold (P.).

29. SYNODONTIS HAUGI.

Synodontis guttatus (non Günth. 1865), Günth. Ann. & Mag. N. H. (3) xx. 1867, p. 112; Vaill. N. Arch. Mus. (3) viii. 1896, p. 140 (part.).

Synodontis haugi, Pellegr. Bull. Mus. Paris, 1906, p. 470, and Bull. Soc. Philom. (9) ix. 1907, p. 31, pl. i. fig. 3.

Depth of body $3\frac{3}{4}$ to 4 times in total length, length of head $3\frac{1}{3}$ to $3\frac{1}{2}$ times. Head a little longer than broad, granulate above; snout obtusely pointed, nearly $\frac{1}{2}$ length of head; eye supero-lateral, $4\frac{1}{2}$ (young) to 6 times in length of head, 2 to $2\frac{1}{3}$ times in interorbital width; lips rather strongly developed; movable mandibular teeth not $\frac{1}{2}$ diameter of eye, 50 to 55 in number. Maxillary barbel not margined, as long as or a little shorter than head, extending slightly beyond base or to anterior third of pectoral spine; outer mandibular barbel not quite twice as long as inner, usually with simple branches, inner with

Fig. 328.

Synodontis haugi.
L. Azingo. $\frac{1}{2}$.

ramified branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield with granular rugosities, not or but little longer than broad, obtusely tectiform, with rounded posterior processes. Humeral process obtusely keeled, much longer than deep, acutely pointed, extending a little beyond occipito-nuchal process. Skin villose on sides. Dorsal I 6–7; spine as long as or a little shorter than head ($\frac{2}{3}$ in young), striated, smooth or feebly granulate in front, feebly serrated behind. Adipose dorsal 3 to $3\frac{1}{2}$ times

as long as deep, $1\frac{1}{2}$ to nearly 2 times as long as its distance from rayed dorsal. Anal III 8–9, rounded. Pectoral spine as long as dorsal, strongly serrated on both sides, especially on the inner. Caudal deeply forked. Brown, uniform or with very indistinct darker spots on the body and fins; young with large dark brown spots.

Total length 230 millim.

Ogowe and Lake Azingo, French Congo.—Type in Paris Museum.

1–3. Ad.	L. Azingo, Gaboon.	R. B. N. Walker, Esq. (C.).
4. Yg.	Lambarene, Ogowe.	Dr. W. J. Ansorge (C.).

30. SYNODONTIS DEPAUWI.

Bouleng. Ann. Mus. Congo, Zool. i. p. 45, pl. xxii. fig. 2 (1899), and Poiss. Bass. Congo, p. 307 (1901).

Depth of body equal to or slightly greater than length of head, $3\frac{2}{3}$ to $4\frac{1}{3}$ times in total length. Head nearly as broad as long, granulate above;

Fig. 329.

Synodontis depauwi.
Type (A. M. C.). $\frac{1}{2}$.

snout rounded, $\frac{1}{2}$ length of head or a little less; eye supero-lateral, 4 (young) to 6 times in length of head, $1\frac{1}{2}$ to 2 times in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth not $\frac{1}{2}$ diameter of eye, 30 to

35 in number. Maxillary barbel without marginal membrane, $1\frac{1}{4}$ to $1\frac{1}{3}$ times length of head, reaching middle or posterior third of pectoral spine; outer mandibular barbel 2 to 3 times as long as inner, former with long, slender branches, latter with shorter branches with tubercular ramifications. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield granulate, simply convex, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, with posterior processes acutely or obtusely pointed. Humeral process much longer than broad, keeled, sharply pointed, extending as far back as occipito-nuchal process. Skin feebly villose on sides. Dorsal I 7; spine about $\frac{2}{3}$ length of head, nearly straight, striated, sharp-edged in front, very feebly serrated behind. Adipose dorsal $3\frac{1}{2}$ to $4\frac{1}{2}$ times as long as deep, 2 to $3\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal III 7–8, obtusely pointed in front. Pectoral spine as long as head, not reaching ventral, strongly serrated on both sides, especially behind. Caudal deeply forked, upper lobe usually the longer. Caudal peduncle not longer than deep. Uniform brownish; young with dark marblings, black spots on the fins, and a black streak along each lobe of the caudal.

Total length 210 millim.

Congo.—Types in Congo Museum, Tervueren.

1–2. Two of the types.	Leopoldville.	Capt. Wilverth (C.).
3. Yg.	Bumba R. (affl. of Sanga R.) at Assobam, S. Cameroon.	G. L. Bates, Esq. (C.).

31. SYNODONTIS THOLLONI.

Synodontis robbianus (non Smith), Vaill. N. Arch. Mus. (3) viii. 1896, p. 144.
Synodontis tholloni, Bouleng. Poiss. Bass. Congo, p. 304 (1901).

Depth of body nearly equal to length of head, $3\frac{1}{2}$ times in total length. Head rugose, granulate above; snout a little more than $\frac{1}{2}$ length of head, rounded; eye supero-lateral, 5 times in length of head, twice in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth about $\frac{1}{2}$ diameter of eye, about 30 in number. Maxillary barbel not margined, longer than head, extending to middle of pectoral spine; mandibular barbels with short branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield tectiform, with granular asperities, the posterior processes rounded. Humeral process $2\frac{1}{2}$ times as long as broad, feebly keeled, obtusely pointed. Dorsal I 7;

spine strongly curved, a little shorter than head, smooth in front, serrated behind. Adipose dorsal shorter than head, its distance from rayed dorsal less than base of latter. Anal III 8. Pectoral spine a little shorter than head, strongly serrated on both sides. Ventral not reaching anal. Caudal moderately forked. Uniform reddish brown (bleached ?).

Total length 144 millim.

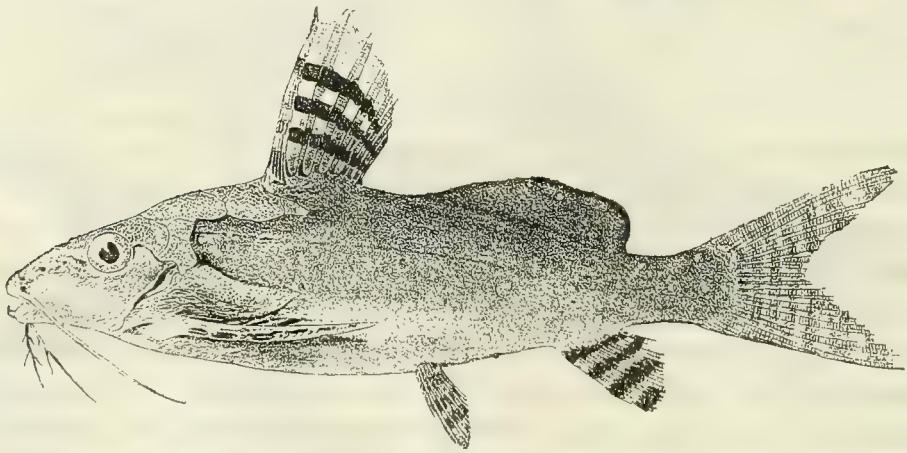
French Congo.—Type in Paris Museum.

32. SYNODONTIS ANGELICUS.

Schilth. Tijdschr. Nederl. Dierk. Ver. (2) iii. 1891, p. 87 ; Vaill. N. Arch. Mus. (3) viii. 1896, p. 141, & vii. pl. xiv. fig. 1 ; Bouleng. Poiss. Bass. Congo, p. 311 (1901).

Depth of body $3\frac{1}{2}$ to $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{4}$ to $3\frac{2}{3}$ times. Head as long as broad or a little longer than broad, feebly rugose above ; snout rounded, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as postocular part of head ; eye supero-lateral, $4\frac{1}{2}$ to $5\frac{1}{2}$ times in length of head, $1\frac{1}{2}$ to 2

Fig. 330.



Synodontis angelicus.
French Congo, after Vaillant (*l. c.*). $\frac{1}{2}$.

times in interorbital width ; lips moderately developed ; præmaxillary teeth forming a short and broad band ; movable mandibular teeth about $\frac{1}{3}$ diameter of eye, 30 to 35 in number. Maxillary barbel without

marginal membrane, $1\frac{1}{5}$ to $1\frac{1}{3}$ times length of head, reaching between basal and distal third of pectoral spine; outer mandibular barbel about twice as long as inner, former with moderately long, mostly bifid branches, latter with shorter branches with numerous ramifications. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield feebly rugose like the occiput, simply convex or obtusely tectiform, $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, posterior processes pointed or obtuse. Humeral process much longer than broad, granulate above, striated below, acutely pointed, extending as far back or a little farther back than occipito-nuchal process. Dorsal I 7; spine $\frac{3}{4}$ to once length of head, more or less curved, striated, smooth in front, strongly serrated behind. Adipose dorsal 3 to 4 times as long as deep, 2 to 3 times as long as its distance from rayed dorsal. Anal IV 7–8, obtusely pointed in front. Pectoral spine as long as or a little longer than head, strongly serrated on both sides. Ventral reaching or nearly reaching anal. Caudal deeply notched. Caudal peduncle as long as deep. Brown to blackish above and beneath, with small round or oval yellow spots disposed rather far apart and with great regularity; rayed fins yellow, barred with black, the black bars usually wider than the yellow interspaces; the yellow spots and the black bars fewer in the young than in the adult.

Total length 185 millim.

Congo.

1. Type.	Kinshassa, Stanley Pool.	M. A. Greshoff (C.); Utrecht University (E.).
2. Ad.	Stanley Pool.	M. P. Delhez (C.).
3–4. Ad. & hgr.	Leopoldville.	Capt. Wilverth (C.).
5. Ad.	Bolobo, Upp. Congo.	Rev. G. Grenfell (P.).
6–7. Ad.	Monsembe, „	Rev. J. H. Weeks (P.).
8. Yg.	Kutu, L. Leopold II.	M. P. Delhez (C.).
9. Ad.	Upper Congo.	Brussels University.
10. Yg.	Banzyville, Ubanghi.	Capt. Royaux (C.).

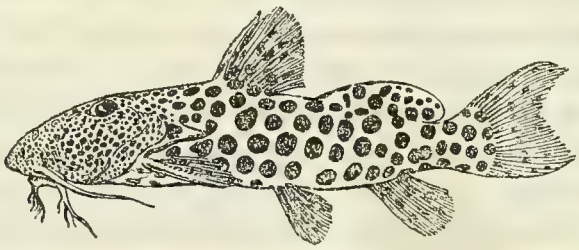
33. SYNODONTIS COURTETI.

Pellegr. Bull. Mus. Paris, 1906, p. 473, and in Chevalier, Afr. C. Franç. p. 449, fig. (1907).

Depth of body $4\frac{1}{4}$ times in total length, length of head 3 times. Snout subacuminate, twice as long as postocular part of head; eye supero-lateral, $5\frac{1}{2}$ times in length of head, $1\frac{1}{2}$ times in interorbital

width; lips much developed; movable mandibular teeth short, 15 in number. Maxillary barbel not margined, reaching base of pectoral spine; outer mandibular barbel with 3, outer with 5 or 6 simple branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield feebly rugose. Humeral process much longer than broad, not keeled, sharply pointed, not extending quite so far back as occipito-nuchal shield. Dorsal I 7; spine $\frac{1}{2}$ length of head, smooth in front. Adipose dorsal 3 times as long as its distance from rayed

Fig. 331.



Synodontis courteti.
Type, after Pellegrin (*l. c.*). $\frac{2}{3}$.

dorsal. Anal IV 9, rounded. Pectoral spine stronger and longer than dorsal, not reaching ventral, serrated on both sides. Caudal moderately forked. Greyish, with very numerous black dots on the head and with larger round black spots on the body and fins, those on the sides of the body largest, as large as the eye.

Total length 105 millim.

Shari River.—Type in Paris Museum.

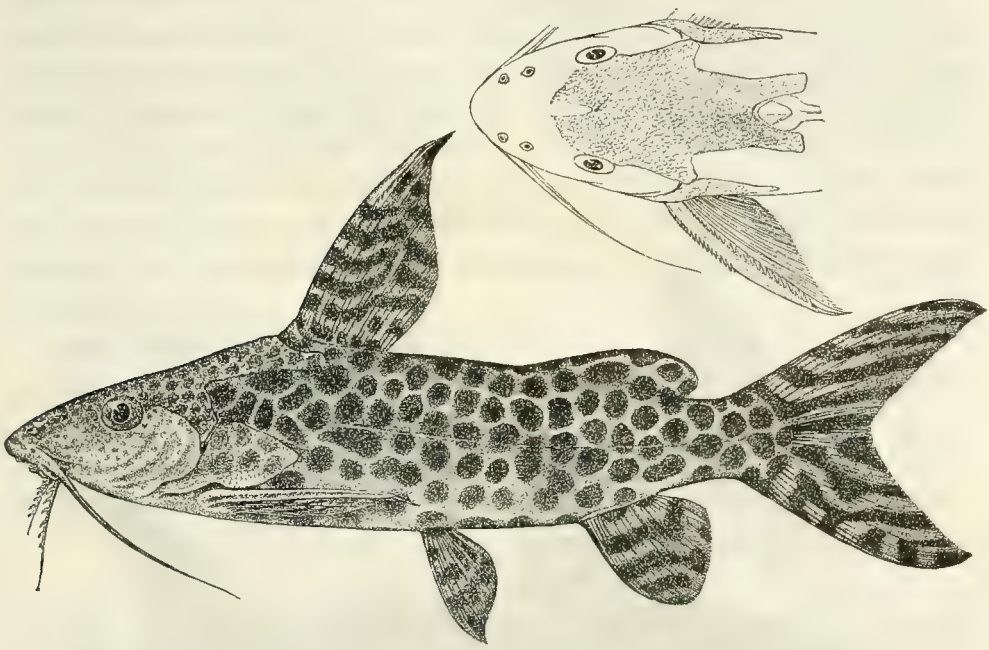
34. SYNODONTIS PARDALIS.

Bouleng. Ann. & Mag. N. H. (8) ii. 1908, p. 30.

Depth of body $4\frac{1}{3}$ to $4\frac{2}{3}$ times in total length, length of head $3\frac{1}{3}$ to $3\frac{1}{2}$ times. Head $1\frac{1}{3}$ times as long as broad, granulate above; snout obtusely pointed, $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as postocular part of head; eye supero-lateral, $4\frac{1}{2}$ to $5\frac{1}{2}$ times in length of head, $1\frac{3}{4}$ to $2\frac{1}{3}$ times in inter-orbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth about $\frac{1}{2}$ diameter of eye, 15 to 20 in number. Maxillary barbel feebly margined at base, as long as or slightly shorter than head, extending to anterior fourth or third of pectoral spine; mandibular barbels with short tubercular

branches, outer twice as long as inner. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield granulate like the occiput, obtusely tectiform, a little longer than broad, with posterior processes truncate. Humeral process granulate, not keeled, little longer than broad, obtusely pointed, extending nearly as far back as occipito-nuchal process. Dorsal I 7 ; spine as long as head,

Fig. 332.



Synodontis pardalis.
Type. $\frac{1}{2}$.

feebly curved, striated, smooth in front, serrated behind. Adipose dorsal 3 to 4 times as long as deep, as long as or a little shorter than its distance from rayed dorsal. Anal IV 7, obtusely pointed in front. Pectoral spine strongly serrated on both sides. Ventral not reaching anal. Caudal fin deeply notched, crescentic. Caudal peduncle about as long as deep. Pale brown above, white beneath ; head with numerous small round dark brown spots ; body with large round dark brown spots, the ground-colour between them forming a light network ; fins white, with more or less regular, horizontal, oblique black bands, 5 to 7 across dorsal, 3 or 4 on ventral and anal, 7 to 11 on caudal.

Total length 200 millim.

Ja River (Congo System), South Cameroon.

1–4. Types.	Libi R., affl. of Ja R.	G. L. Bates, Esq. (C.).
5–6. Ad.	Ja R. at Efayong.	,,
7. Ad.	Ja R. at Esamesa.	,,

35. SYNODONTIS ORNATIPINNIS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 111, pl. xliii. fig. 2 (1899), and Poiss. Bass. Congo, p. 321 (1901).

Depth of body $4\frac{1}{4}$ to $4\frac{2}{3}$ times in total length, length of head $3\frac{1}{3}$ to $3\frac{2}{3}$ times. Head $1\frac{1}{3}$ times as long as broad, feebly rugose above from between the eyes; snout obtusely pointed, $1\frac{2}{3}$ or 2 times as long as postocular part of head; eye supero-lateral, 4 to $4\frac{1}{3}$ times in length of head, $1\frac{1}{3}$ to $1\frac{2}{3}$

Fig. 333.

Synodontis ornatipinnis.
Type (A. M. C.). $\frac{1}{2}$.

times in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth hardly $\frac{1}{4}$ diameter of eye, 20 to 26 in number. Maxillary barbel broadly margined at base, a little longer than head, reaching middle or posterior third of pectoral spine; mandibular barbels with short tubercular branches, outer a little more than twice as long as inner. Gill-opening

not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rugose like the occiput, simply convex, $1\frac{1}{5}$ to $1\frac{1}{4}$ times as long as broad, posterior processes more or less pointed. Humeral process granulate and striated, not keeled, $1\frac{1}{4}$ to $1\frac{1}{2}$ times as long as broad, pointed, not extending quite so far back as occipito-nuchal process. Dorsal I 7; spine $\frac{2}{3}$ to $\frac{3}{4}$ as long as head, feebly curved, striated, smooth in front, serrated behind. Adipose dorsal 3 to 4 times as long as deep, $1\frac{1}{2}$ to $2\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal IV 7, obtusely pointed in front. Pectoral spine a little shorter than head, strongly serrated on both sides. Ventral not reaching anal. Caudal fin deeply notched, crescentic, upper lobe the longer and more or less produced. Caudal peduncle nearly as long as deep. Yellowish or pale olive above with large rounded dark spots, white beneath; rayed fins (except pectoral) yellow, with black spots confluent into transverse bands; on the caudal, these bands forming crescents inversely to the shape of the fin.

Total length 200 millim.

Congo, Angola, Lake Mweru.—Types in Congo Museum, Tervueren.

1–2. Types.	Coquilhatville, Upp. Congo.	M. P. Delhez (C.).
3. Yg.	Quanza R., Angola.	Dr. W. J. Ansorge (C.).
4. Ad., skin.	L. Mweru.	Sir A. Sharpe (P.).

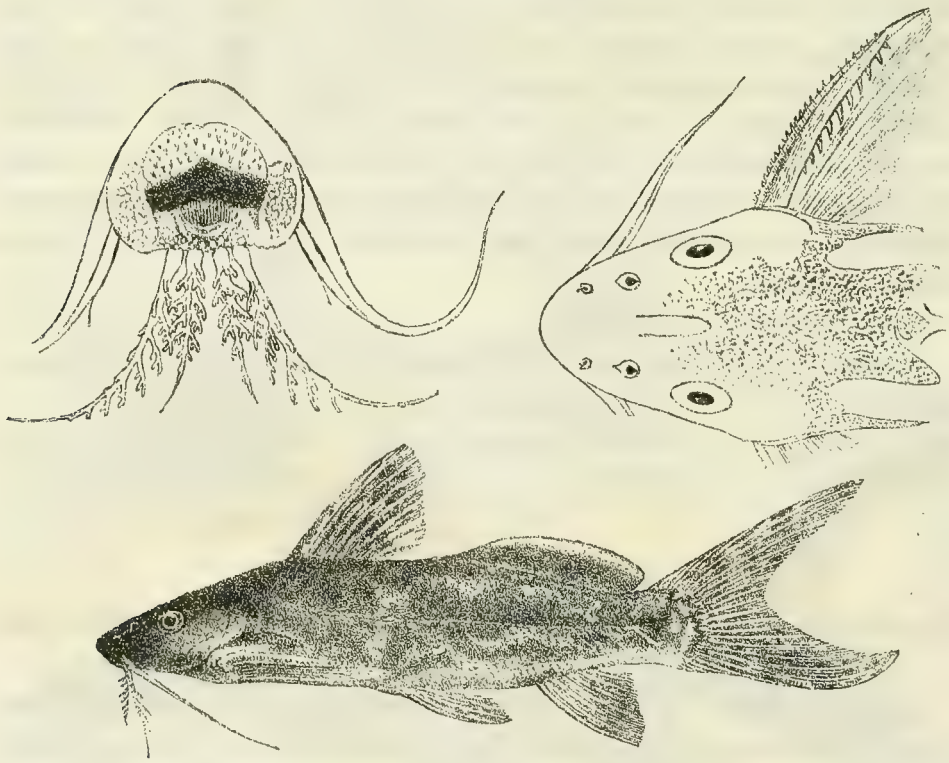
36. SYNODONTIS SOLONI.

Boulenger. Ann. Mus. Congo, Zool. i. p. 110, pl. xliii. fig. 1 (1899), and Poiss. Bass. Congo, p. 320 (1901).

Depth of body 5 times in total length, length of head $3\frac{3}{4}$ times. Head $1\frac{1}{4}$ times as long as broad, finely granulate above; snout obtusely pointed, nearly $1\frac{1}{2}$ times as long as postocular part of head; eye superolateral, 6 times in length of head, not quite twice in interorbital width; lips moderately developed; præmaxillary teeth in 3 or 4 irregular transverse series; movable mandibular teeth about $\frac{1}{3}$ diameter of eye, 18 to 20 in number. Maxillary barbel with a broad marginal membrane at base, as long as head, not reaching middle of pectoral spine; mandibular barbels with short ramified branches, outer nearly twice as long as inner. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, simply convex, $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, with rounded posterior processes. Humeral process granulate and striate, much longer than broad, acutely pointed,

not extending quite so far back as occipito-nuchal process. Dorsal 1 7; spine a little shorter than head, striated, smooth in front, very feebly serrated behind. Adipose dorsal $4\frac{1}{2}$ times as long as deep, $2\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal III 7, obtusely pointed in front. Pectoral spine as long as dorsal, not reaching ventral, moderately serrated on outer border, very strongly on inner. Ventral not reaching

Fig. 334.



Synodontis soloni.
Type (A. M. C.).

anal. Caudal deeply forked. Caudal peduncle deeper than long. Olive-grey above, marbled with brown, white beneath; dorsal and caudal fins with round brown spots.

Total length 130 millim.

Congo.—Type in Congo Museum, Tervueren.

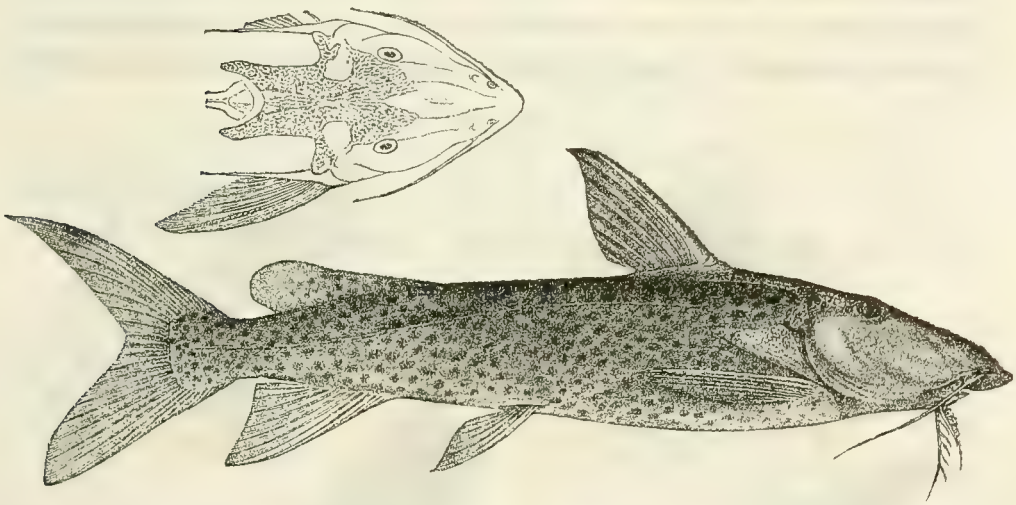
1. One of the types. Congo. Brussels University.

37. SYNODONTIS GUTTATUS.

Günth. Ann. & Mag. N. H. (3) xv. 1865, p. 452 ; Vaill. N. Arch. Mus. (3) viii. 1896, p. 140 (part.).

Depth of body 5 times in total length, length of head 4 times. Head $1\frac{2}{5}$ times as long as broad, strongly rugose from between the eyes; snout acutely pointed, $2\frac{1}{2}$ times postorbital part of head ; eye superolateral, $8\frac{1}{2}$ times in length of head, 3 times in interorbital width ; lips moderately developed ; præmaxillary teeth forming a broad crescentic band ; movable mandibular teeth $\frac{2}{3}$ diameter of eye, 30 in number. Maxillary barbel not margined, nearly $\frac{3}{4}$ length of head, not reaching pectoral spine ; outer mandibular barbel twice as long as inner, with

Fig. 335.



Synodontis guttatus.
Type. $\frac{1}{8}$.

simple branches, inner with ramified branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rugose like the occiput, convex, $1\frac{1}{3}$ times as long as broad, with obtuse posterior processes. Humeral process not keeled, much longer than broad, acutely pointed, not extending quite so far back as occipito-nuchal process. Dorsal I 7 ; spine $\frac{3}{4}$ length of head, striated, smooth in front, very feebly serrated behind. Adipose dorsal 3 times as long as deep, a little shorter than its distance from rayed dorsal. Anal III 8, pointed in front. Pectoral spine as long as dorsal, granulate on outer border, feebly serrated on inner border. Caudal deeply notched. Caudal

peduncle longer than deep. Brown, covered with small round dark spots.

Total length 600 millim.

Niger.

1. Type, stuffed. Niger. Mr. J. T. Dalton (C.).

The following specimens are referred provisionally and with doubt to this species :—

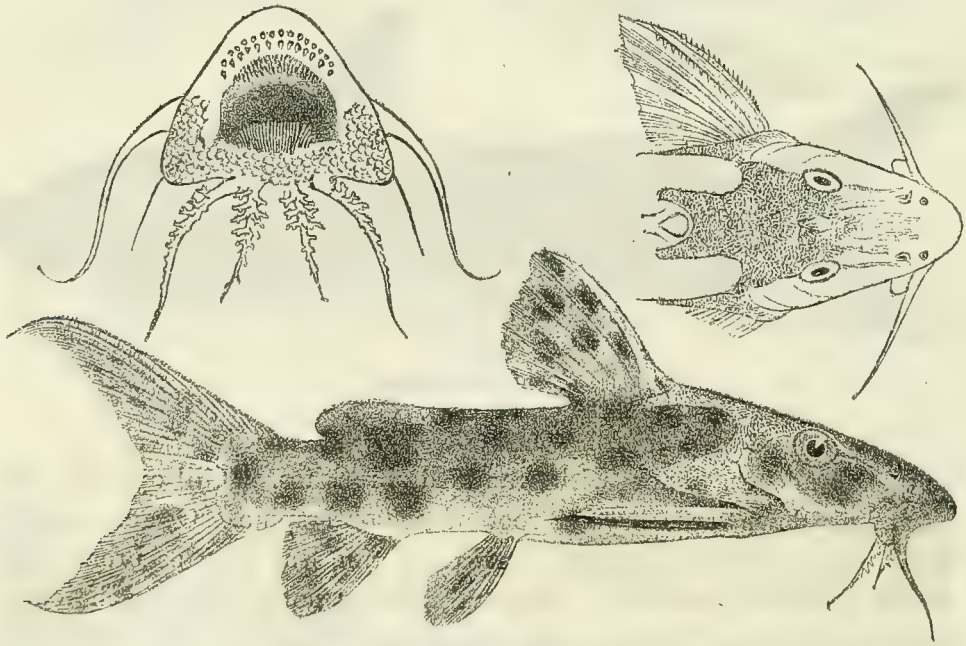
2–4. Yg. Ogun R. at Aro, Lagos. Major G. E. Bruce (P.).

38. SYNODONTIS LONGIROSTRIS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 44, pl. xii. fig. 2 (1902).

Depth of body $4\frac{3}{4}$ times in total length, head 3 times. Head $1\frac{1}{2}$ times as long as broad, rugose above from between the eyes ; snout obtusely pointed, twice as long as postocular part of head ; eye supero-lateral, $5\frac{1}{2}$ times in length of head, $1\frac{2}{3}$ times in interorbital width ; lips rather

Fig. 336.



Synodontis longirostris.
Type (A. M. C.). $\frac{3}{4}$.

strongly developed ; præmaxillary teeth forming a short, broad band ; movable mandibular teeth about $\frac{1}{2}$ diameter of eye, 24 in number. Maxillary barbel not margined, $\frac{1}{2}$ length of head, barely reaching root of pectoral spine ; outer mandibular barbel not quite twice as long as

inner, both with short and mostly bifid branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, simply convex, longer than broad, with obtuse posterior processes. Humeral process with vermicular rugosities, much longer than broad, acutely pointed, not extending quite so far back as occipito-nuchal process. Dorsal I 7; spine feebly curved, about $\frac{2}{3}$ length of head, striated, smooth in front, feebly striated behind. Adipose dorsal 3 times as long as deep, as long as its distance from rayed dorsal. Anal IV 6, obtusely pointed in front. Pectoral spine slightly longer than dorsal, rather strongly serrated on outer border, more strongly still on inner. Ventral reaching anal. Caudal deeply notched. Caudal peduncle slightly longer than deep. Olive-brown above, with large round black spots, these spots forming three series on the body.

Total length 135 millim.

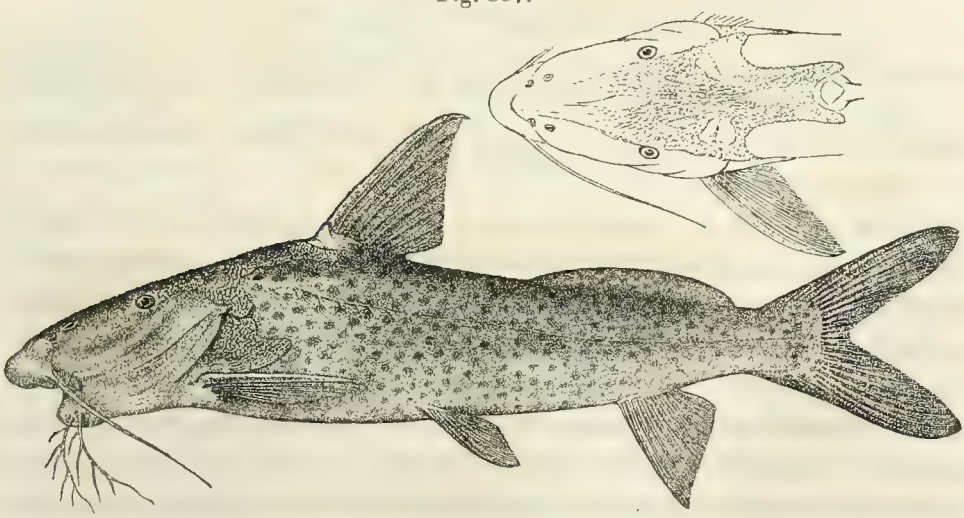
Yembe River, Ubanghi.—Type in Congo Museum, Tervueren.

39. SYNODONTIS LABEO.

Günth. Ann. & Mag. N. H. (3) xv. 1865, p. 453.

Depth of body $4\frac{1}{4}$ times in total length, length of head $3\frac{1}{4}$ times.

Fig. 337.



Synodontis labeo.
Type. $\frac{1}{6}$.

Head $1\frac{2}{5}$ times as long as broad, rugose, granulate above; snout nearly twice as long as postocular part of head, terminating in a

globular swelling; eye supero-lateral, 10 times in length of head, 4 times in interorbital width; lips strongly developed; chin swollen; præmaxillary teeth forming a short and broad band; movable mandibular teeth minute, reduced to a few. Maxillary barbel not margined, $\frac{3}{4}$ length of head, reaching base of pectoral spine; mandibular barbels with long slender branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield granulate like the occiput, convex, $1\frac{2}{3}$ times as long as broad, with obtuse posterior processes. Humeral process longer than broad, rugose, obtusely pointed, not extending so far back as occipito-nuchal shield. Dorsal I 7; spine not quite $\frac{2}{3}$ length of head, striated, feebly granulate in front at the base, very feebly serrated behind. Adipose dorsal 7 times as long as deep, nearly twice as long as its distance from rayed dorsal. Anal III 9, pointed in front. Pectoral spine as long as dorsal, not serrated. Ventral not reaching anal. Caudal deeply notched. Caudal peduncle a little longer than deep. Brownish, with numerous round darker spots.

Total length 720 millim.

Niger.

1. Type, stuffed. Niger. Mr. J. T. Dalton (C.).

40. SYNODONTIS VAILLANTI.

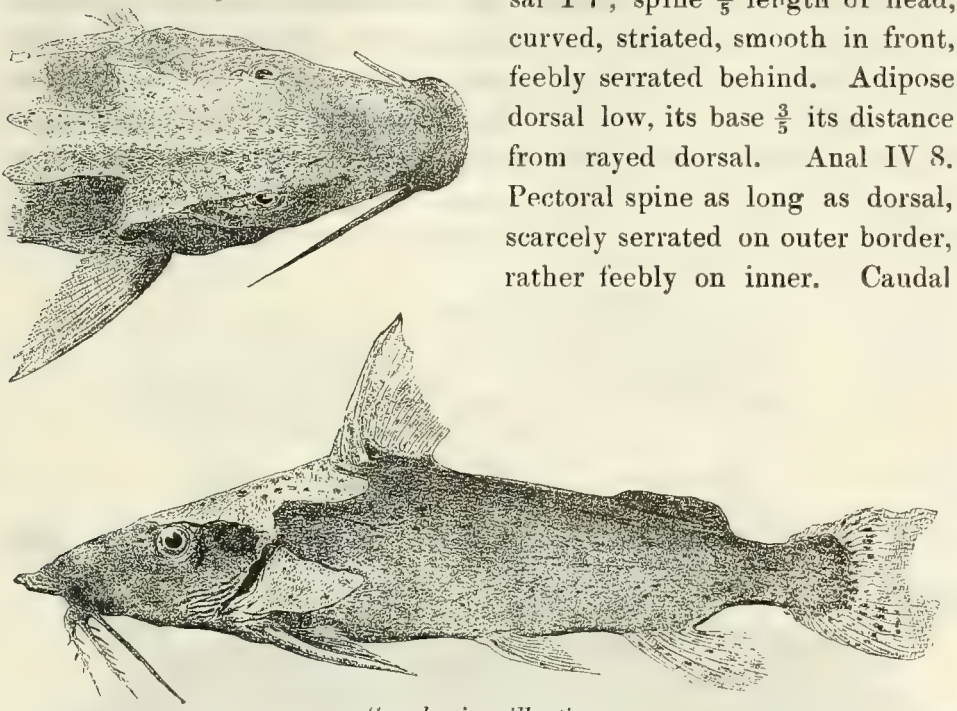
Synodontis labeo, part., Vaill. N. Arch. Mus. (3) viii. 1896, p. 112, pl. xii. fig. 2.

Synodontis vaillanti, Bouleng. Ann. & Mag. N. H. (6) xx. 1897, p. 424, and Poiss. Bass. Congo, p. 319 (1901).

Depth of body $4\frac{1}{2}$ times in total length, length of head $3\frac{1}{4}$ times. Head $1\frac{1}{2}$ times as long as broad, strongly rugose from between the eyes; snout $1\frac{1}{2}$ times postocular part of head, terminating in a spatulate expansion; eye supero-lateral, $8\frac{1}{2}$ times in length of head, $3\frac{1}{4}$ times in interorbital width; lips much developed; præmaxillary teeth in several series; movable mandibular teeth not quite $\frac{1}{3}$ diameter of eye, 8 or 9 in number. Maxillary barbel not margined, $\frac{1}{2}$ length of head; outer mandibular barbel as long as maxillary, with short simple branches, inner a little shorter and with bifid branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rugose like the occiput, feebly tectiform, $1\frac{1}{4}$ times as long as

broad, with obtuse posterior processes. Humeral process with granular and vermicular rugosities, obtusely pointed, not extending so far back as occipito-nuchal process. Dorsal I 7; spine $\frac{3}{5}$ length of head, curved, striated, smooth in front, feebly serrated behind. Adipose dorsal low, its base $\frac{3}{5}$ its distance from rayed dorsal. Anal IV 8. Pectoral spine as long as dorsal, scarcely serrated on outer border, rather feebly on inner. Caudal deeply notched. Brownish, with darker roundish spots.

Fig. 338.



Synodontis vaillanti.
Type, after Vaillant (*l. c.*). $\frac{1}{5}$.

Total length 580 millim.

Upper Ubanghi.—Type (stuffed) in Paris Museum.

41. SYNODONTIS XIPHIAS.

Günth. Cat. Fish. v. p. 215 (1864), and Study Fish. p. 573, fig. (1880); Vaill. N. Arch. Mus. (3) viii. 1896, p. 117.

Depth of body 4 times in total length, length of head 3 times. Head nearly twice as long as broad, rugose, granulate above from between the eyes; snout $2\frac{1}{2}$ times as long as postocular part of head, terminating in an acutely pointed appendage; eye supero-lateral, 10 times in length of head, $2\frac{1}{3}$ times in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth minute, 8 in number. Maxillary

barbel not margined, $\frac{1}{2}$ length of head, not quite reaching root of pectoral spine; mandibular barbels with long slender branches. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield granulate like the occiput, convex, $1\frac{1}{2}$ times as long as broad, with obtuse posterior processes. Humeral process much longer than broad, granulate, pointed, not extending so far back as occipito-nuchal shield. Dorsal I 7; spine striated, feebly granulate in front at the base. Adipose dorsal $4\frac{1}{2}$ times as long as deep, $1\frac{1}{2}$ times as long as its distance from rayed dorsal. Anal IV 8, pointed in front. Pectoral spine $\frac{1}{2}$ length of head, granulate on outer border, rather feebly

Fig. 339.

Synodontis xiphias.
Type. $\frac{1}{5}$.

serrated on inner border. Ventral not reaching anal. Caudal deeply notched. Caudal peduncle as long as deep. Uniform brownish.

Total length 580 millim.

Niger.

1. Type, stuffed. Niger. Mr. J. T. Dalton (C.).

42. SYNODONTIS GRESHOFFI.

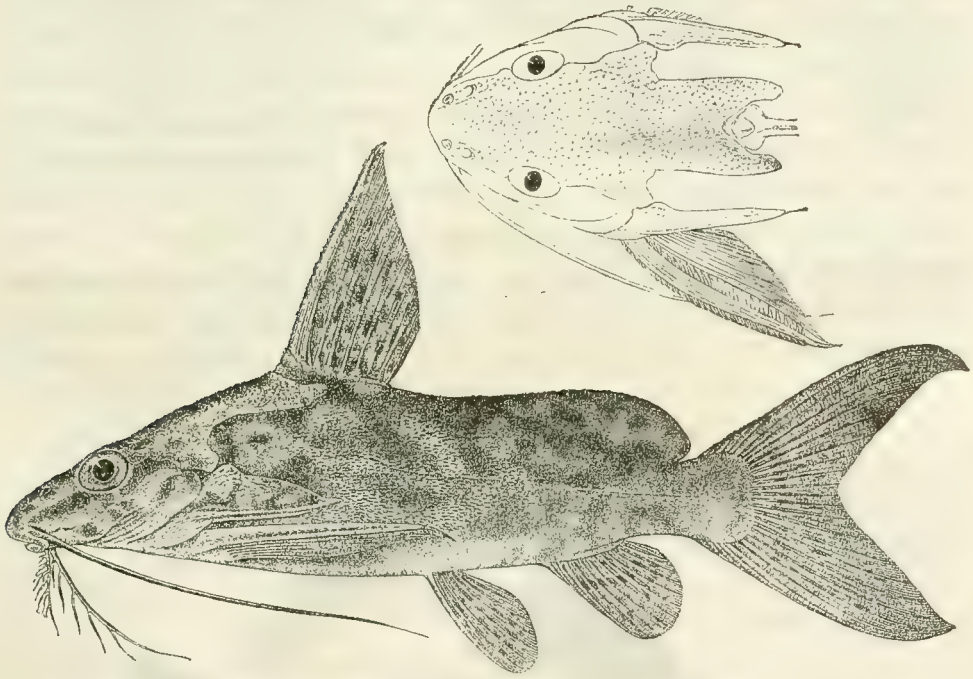
Schilthuis, Tijdschr. Nederl. Dierk. Ver. (2) iii. 1891, p. 87; Bouleng. Poiss. Bass. Congo, p. 316 (1901).

Synodontis afro-fischeri (non Hilgend.), Vaill. N. Arch. Mus. (3) viii. 1896, p. 152, pl. xiv. fig. 2.

Depth of body equal to or a little greater than length of head, 3 to

4 times in total length. Head as long as broad, finely granulate above; snout rounded, $\frac{2}{5}$ or a little less than $\frac{1}{2}$ length of head; eye superolateral, $3\frac{1}{2}$ to $4\frac{1}{2}$ times in length of head, $1\frac{1}{2}$ to 2 times in interorbital width; lips moderately developed; præmaxillary teeth forming a short, broad band; movable mandibular teeth hardly $\frac{1}{3}$ diameter of eye, 40 to 65 in number. Maxillary barbel not margined, at least twice as long as head, reaching or nearly reaching base of ventral; mandibular barbels with long, slender branches, outer twice as long as inner and longer than

Fig. 340.



Synodontis greshoffi.
Type.

head. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield finely granulate, tectiform, longer than broad, with obtuse or rounded posterior processes. Humeral process at least twice as long as deep, striated and keeled, acutely pointed, extending as far back as, or a little beyond, occipito-nuchal process. Skin villose on the sides. Dorsal I 6–7; spine scarcely curved, as long as head, smooth in front, feebly serrated behind. Adipose dorsal $3\frac{1}{2}$ to 4 times as long as deep, 2 to 3 times as long as its distance from rayed dorsal. Anal III 8–10. Pectoral spine at least as long as head, strongly serrated on both sides. Ventral reaching or not anal. Caudal

deeply notched, upper lobe often prolonged into a filament. Caudal peduncle nearly as long as deep. Yellow or pale brown above, marbled with dark brown, the rayed fins spotted with dark brown; young dark brown, with two or three yellow wavy cross-bands.

Total length 240 millim.

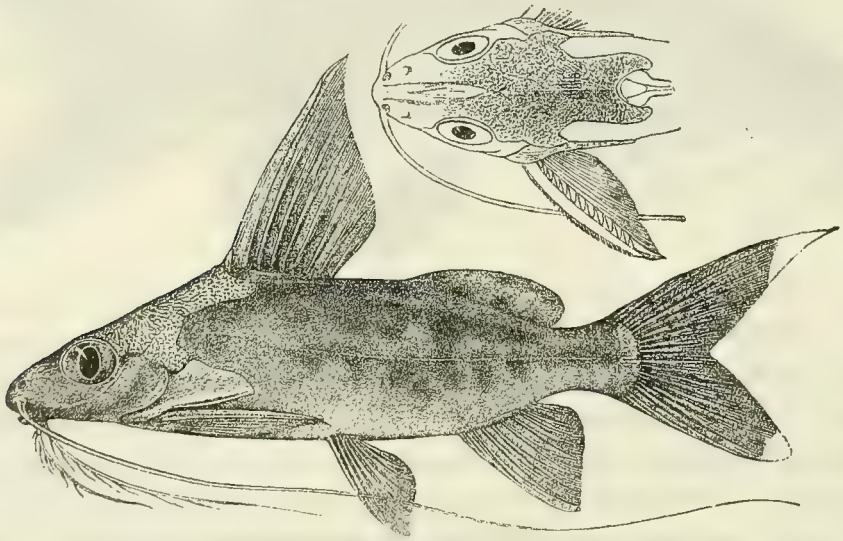
Congo.

1. Ad.	Matadi, Lower Congo.	Capt. Wilverth (C.).
2. Type.	Kinshassa, Stanley Pool.	M. A. Greshoff (C.) ; Utrecht University (E.).
3. Ad.	Monsembe, Upper Congo.	Rev. J. H. Weeks (P.).
4–6. Hgr. & yg.	Bikoro, L. Tumba, Upp. Congo.	M. P. Delhez (C.).
7–9. Ad.	Upper Congo.	Brussels University.
10. Hgr.	Banzyville, Ubanghi.	Capt. Royaux (C.).
11. Ad.	Aruwimi R.	R. B. Woosnam, Esq. (C.) ; Ruwenzori Expedition.

43. SYNODONTIS ALBERTI.

Schilthuis, Tijdschr. Nederl. Dierk. Ver. (2) iii. 1891, p. 88 ; Vaill. N. Arch. Mus. (3) viii. 1896, p. 118, pl. xii. fig. 1; Bouleng. Poiss. Bass. Congo, p. 317 (1901).

Fig. 341.



Synodontis alberti.
Type.

Depth of body 3 to $3\frac{2}{3}$ times in total length, length of head $3\frac{1}{2}$ to 4 times. Head $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, rugose above from between the eyes; snout rounded, $\frac{1}{3}$ to $\frac{2}{5}$ length of head; eye supero-

lateral, 3 to $3\frac{1}{2}$ times in length of head, equal to interorbital width; lips moderately developed; præmaxillary teeth forming a short, broad band; movable mandibular teeth hardly $\frac{1}{3}$ diameter of eye, 18 to 25 in number. Maxillary barbel not margined, $3\frac{1}{2}$ to $4\frac{1}{2}$ times length of head, reaching caudal peduncle or caudal fin; mandibular barbels with long, slender branches, outer at least twice as long as inner and $1\frac{2}{3}$ to 2 times length of head. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rugose like the occiput, obtusely keeled, with obtuse or rounded posterior processes. Humeral process rugose, striated above, short and broad, its point obtuse or truncate, hardly extending so far back as occipito-nuchal process. Dorsal I 7; spine scarcely curved, as long as or a little longer than head, smooth in front, feebly serrated behind. Adipose dorsal 3 to 4 times as long as deep, narrowly separated from rayed dorsal. Anal III–IV 8–9. Pectoral spine as long as or a little shorter than head, strongly serrated on both sides. Ventral not quite reaching anal. Caudal deeply notched, upper lobe more or less prolonged into a filament. Caudal peduncle deeper than long. Olive or brownish above, uniform or spotted with dark brown; caudal fin, often also dorsal and anal, with very numerous small dark spots, forming transverse series.

Total length 160 millim.

Congo.

1, 2. Hgr., types.	Kinshassa, Stanley Pool.	M. A. Greshoff (C.); Utrecht University (E.).
3. Ad.	Leopoldville, Stanley Pool.	Capt. Wilverth (C.).
4. Ad.	,, ,,	M. P. Delhez (C.).
5. Yg.	Kondue, Kasai R.	M. Luja (C.); Luxemburg Museum (P.).
6–7. Ad.	Monsembe, Upper Congo.	Rev. J. H. Weeks (C.).
8. Ad.	Banzyville, Ubanghi.	Capt. Royaux (C.).

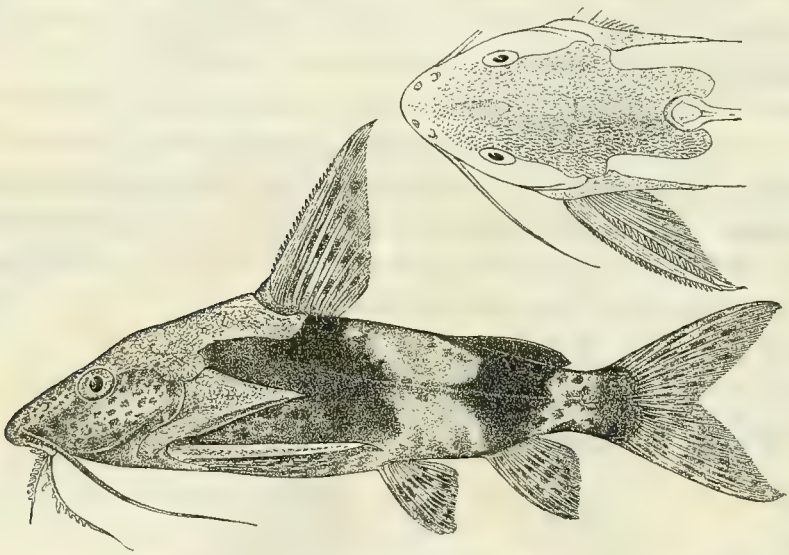
44. SYNODONTIS BATESII.

Boulenger, Ann. & Mag. N. H. (7) xx. 1907, p. 50.

Depth of body $3\frac{1}{2}$ to $4\frac{1}{3}$ times in the total length, length of head 3 to $3\frac{1}{2}$ times. Head a little longer than broad, rugose above; snout obtusely pointed, as long as postocular part of head; eye supero-lateral, 4 to $5\frac{1}{2}$ times in length of head, $1\frac{2}{3}$ to $2\frac{1}{4}$ times in interorbital width; præmaxillary teeth forming a short, broad band; movable mandibular teeth not half diameter of eye, 30 to 40 in number; maxillary barbel not

distinctly margined, extending about to middle of pectoral spine; mandibular barbels with obtuse or tubercular branches, outer at least twice as long as inner. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, not or but slightly longer than broad, posterior processes rounded. Humeral process rugose, acutely pointed, extending as far back as occipito-nuchal process. Dorsal I 7; spine nearly as long as head, striated, strongly serrated in front, with a few very feeble serræ behind. Adipose dorsal rather small, not longer than its distance from the rayed dorsal. Anal III 8–9, rounded or obtusely pointed in front. Pectoral spine strongly serrated on outer side, still more strongly on

Fig. 342.



Synodontis batesii.
Type.

inner. Ventral nearly reaching anal. Caudal deeply notched. Caudal peduncle longer than deep. Brown, blotched and marbled with darker, with three broad irregular dark bands, the first below the dorsal fin, the second below the adipose, the third in front of the caudal fin; fins pale brown or whitish, with black spots.

Total length 115 millim.

Ja River (Congo System), South Cameroon.

1–8, 9–10. Types.	Bitye.	G. L. Bates, Esq. (C.).
11–12. Ad.	,,	,,
13. Ad.	Efayong.	,,
14. Skel.	,,	,,

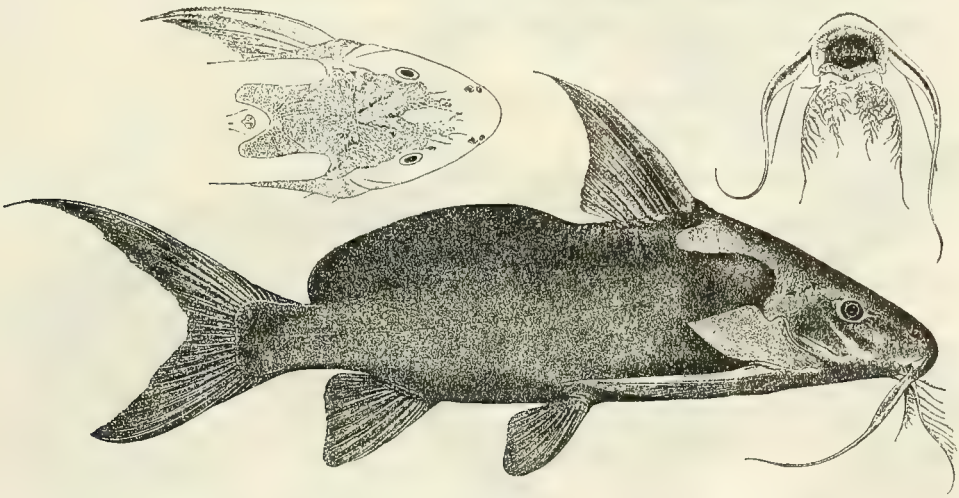
45. SYNODONTIS SERRATUS.

Rüpp. Beschr. n. Fische Nil, p. 8, pl. ii. fig. 1 (1829) ; Cuv. & Val. Hist. Poiss. xv. p. 263 (1840) ; Günth. Cat. Fish. v. p. 212 (1864), and Petherick's Trav. ii. p. 234 (1869) ; Vaill. N. Arch. Mus. (3) viii. 1896, p. 136 ; Bouleng. Fish. Nile, p. 372, pl. lxx. & pl. lxxi. fig. 2 (1907).

Pseudosynodontis serratus, Bleek. Nederl. Tijdschr. Dierk. i. 1863, p. 55.

Depth of body $3\frac{1}{4}$ to $4\frac{1}{4}$ times in total length, length of head $3\frac{1}{3}$ to $4\frac{1}{3}$ times. Head $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, more or less rugose above, behind the snout, the rugosities sometimes concealed under a rather thick skin ; snout rounded or obtusely pointed, longer than post-ocular part of head ; eye supero-lateral, 5 (young) to 11 times in length of head, 2 to 4 times in interorbital width ; lips moderately developed ;

Fig. 343.



Synodontis serratus.
Nubia (F. N.). $\frac{1}{5}$.

præmaxillary teeth forming a short and broad band ; movable mandibular teeth not $\frac{1}{2}$ diameter of eye, 30 to 48 in number. Maxillary barbel with a broad marginal membrane in its proximal third, $\frac{2}{3}$ to $1\frac{1}{3}$ times length of head, reaching between base and middle of pectoral spine ; outer mandibular barbel about twice as long as inner, the former with long slender branches, which may bear secondary branches, the latter with tubercular ramifications. Gill-opening not extending downwards beyond root of pectoral fin. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as broad, posterior processes pointed or truncate. Humeral process a little longer than broad, flat or with a very distinct keel, rugose, acutely pointed, extending

as far back as occipito-nuchal process or not quite so far. Dorsal I 7; spine curved, feebly serrated behind, distinctly but finely serrated in front, as long as or a little shorter than head, the soft terminal part usually produced into a short filament. Adipose dorsal 3 to 4 times as long as deep, 5 to 8 times as long as its distance from rayed dorsal. Anal V 7–8, obtusely pointed in front. Pectoral spine nearly as long as or a little longer than dorsal, reaching or nearly reaching root of ventral, outer border finely, inner more strongly serrated. Ventral not reaching anal. Caudal deeply forked, upper lobe the longer and sometimes prolonged into a filament. Caudal peduncle as long as deep or deeper than long. Uniform grey or brownish above, white beneath; young with minute dark specks on the back and on the adipose fin.

Total length 470 millim.

Nile.—Type in Senckenberg Museum, Frankfort (M.).

1–2. Ad.	Near Samannud, Damietta Nile.	L. Loat, Esq. (C.).
3. Hgr.	Beni Souef, Lower Nile.	,,
4–8. Ad. & hgr.	Assuan.	,,
9–10. Ad. & hgr.	Abu Hor, Upper Nile.	,,
11. Hgr.	Mirrwau, ,,	,,
12. Ad.	El Maharraka, ,,	,,
13–15. Ad. & hgr.	Ibrim, ,,	,,
16. Hgr.	Abaad, ,,	,,
17–18. Ad. & hgr.	Fergunt, ,,	,,
19–20. Ad.	Abu Simbal, ,,	,,
21. Skel.	,, ,,	,,
22. Hgr.	Wady Halfa, ,,	,,
23–24. Hgr.	Kosheh, ,,	,,
25, 26, 27. Ad. & yg.	Khartum.	J. Petherick, Esq. (C.).
28. Ad.	Ahmed Aga, White Nile.	L. Loat, Esq. (C.).
29. Hgr.	Between Khartum and the Sobat.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).

46. SYNODONTIS GELEDENSIS.

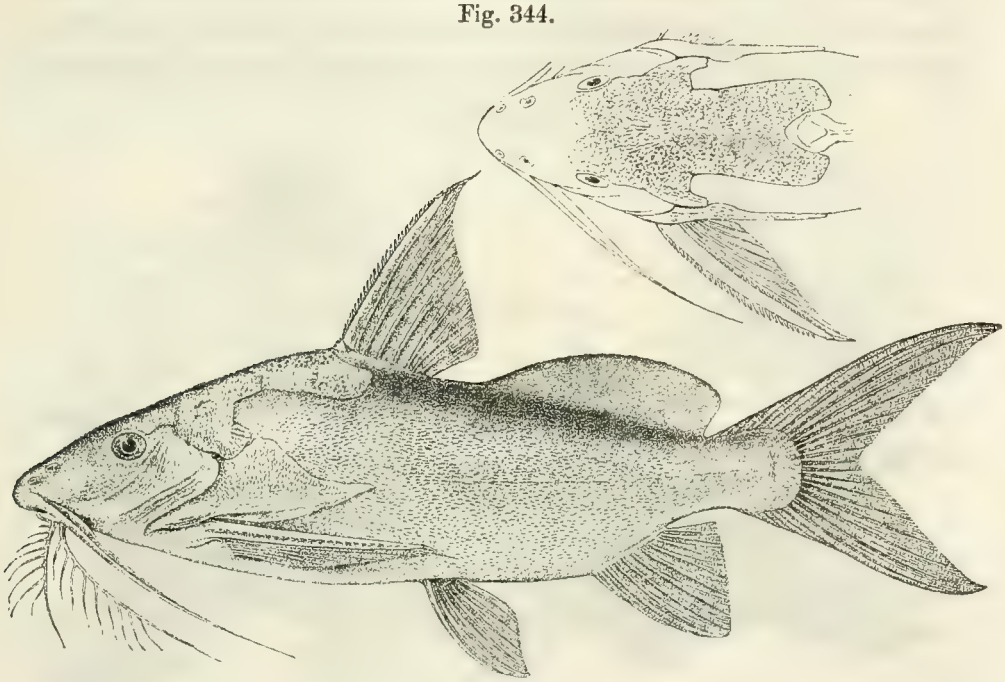
Günth. Proc. Zool. Soc. 1896, p. 220, fig.

? *Synodontis serratus*, Vincig. Ann. Mus. Genova, (2) xvii. 1896, p. 351.

Depth of body $3\frac{1}{2}$ times in total length, length of head $3\frac{2}{5}$ times. Head $1\frac{1}{3}$ times as long as broad, rugose above from between the eyes; snout pointed, a little longer than postocular part of head; eye superolateral, 8 times in length of head, $2\frac{2}{3}$ times in interorbital width; lips moderately developed; præmaxillary teeth forming a short and broad

band; movable mandibular teeth $\frac{2}{5}$ diameter of eye, 18 in number. Maxillary barbel with a broad marginal membrane at the base, $1\frac{1}{4}$ times length of head, reaching middle of pectoral spine; outer mandibular barbel as long as head, about twice as long as inner, former with long slender branches, latter with shorter, ramified branches. Gill-opening not extending downwards beyond root of pectoral fin. Occipito-nuchal shield rough like the occiput, with a blunt keel, $1\frac{1}{3}$ times as long as broad, squarely truncate posteriorly. Humeral process much longer than broad, with feeble keel, rugose, acutely pointed, extending as far back

Fig. 344.



Synodontis geledensis.
Type. $\frac{4}{9}$.

as occipito-nuchal process. Skin strongly villose on the sides. Dorsal I 7; spine nearly straight, $\frac{4}{5}$ length of head, strongly serrated in front, smooth behind. Adipose dorsal 4 times as long as deep, nearly 4 times as long as its distance from rayed dorsal. Anal IV 8, obtusely pointed in front. Pectoral spine as long as head, nearly reaching ventral, outer border strongly, inner rather feebly serrated. Ventral not reaching anal. Caudal deeply forked. Caudal peduncle deeper than long. Brownish above, whitish beneath.

Total length 270 millim.

Webi Shebeli, East Africa.

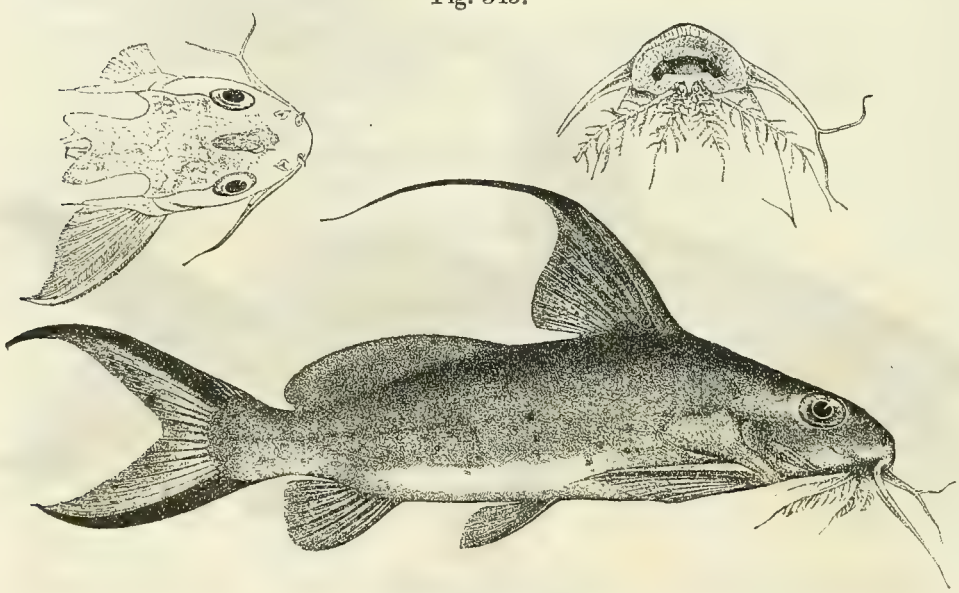
1. Type. Geledi, Shebeli R. Dr. Donaldson Smith (C.).

47. SYNODONTIS FILAMENTOSUS.

Bouleng. Ann. & Mag. N. H. (7) viii. 1901, p. 10, and Fish. Nile, p. 371, pl. lxix. (1907).

Depth of body equal to length of head, 4 times in total length. Head $1\frac{1}{5}$ times as long as broad, feebly rugose between eyes and on occiput; snout rounded, as long as postocular part of head; eye supero-lateral, $3\frac{1}{2}$ times in length of head, $1\frac{1}{3}$ times in interorbital width; occiput simply convex; lips moderately developed; præmaxillary teeth rather few, forming a short and broad band; movable mandibular teeth barely $\frac{1}{4}$ length of eye, 20 in number. Maxillary barbel broadly margined at the base, $\frac{4}{5}$ length of head, extending to base of pectoral fin; mandi-

Fig. 345.



Synodontis filamentosus.
Type (F. N.). $\frac{2}{3}$.

bular barbels with numerous long ramified branches, outer $1\frac{1}{2}$ times as long as inner. Gill-opening not extending downwards beyond root of pectoral fin. Occipito-nuchal shield slightly rugose, obtusely tectiform, $1\frac{1}{3}$ times as long as broad, posterior processes rounded. Humeral process a little longer than broad, flat, rounded behind, extending as far back as occipito-nuchal process. Dorsal I 7; spine strong, feebly serrated behind, striated in front, as long as head, with a filamentous prolongation exceeding it in length. Adipose dorsal $4\frac{1}{2}$ times as long as deep, twice as long as its distance from rayed dorsal. Anal IV 7,

rounded. Pectoral spine nearly as long as head, moderately serrated on outer edge, very strongly on inner, not reaching ventral. Caudal deeply forked, upper lobe the longer. Caudal peduncle as long as deep. Greyish above, with small scattered darker spots, white beneath; dorsal and caudal fins with small greyish spots; dorsal filament and upper and lower borders of caudal fin black.

Total length 180 millim.

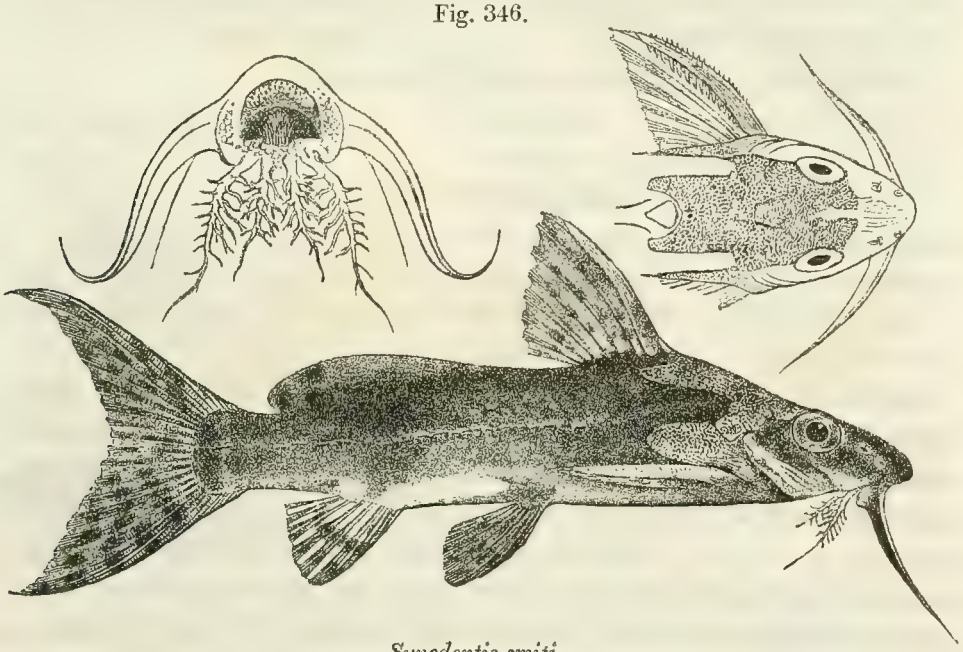
White Nile.

1. Type. Jebelain. L. Loat, Esq. (C.).

48. SYNODONTIS SMITI.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 45, pl. xii. fig. 3 (1902).

Fig. 346.



Synodontis smiti.
Type (A. M. C.). $\frac{2}{3}$.

Depth of body $4\frac{3}{4}$ to 5 times in total length, length of head nearly 4 times. Head $1\frac{1}{3}$ times as long as broad, rugose above; snout pointed, $\frac{2}{5}$ length of head; eye supero-lateral, $3\frac{2}{3}$ times in length of head, 1 or $1\frac{1}{4}$ times in interorbital width; lips moderately developed; præmaxillary teeth forming a short, broad band; movable mandibular teeth about $\frac{1}{2}$ diameter of eye, 16 or 17 in number. Maxillary barbel with a broad inner marginal membrane, a little shorter than head, extending a little beyond root of pectoral spine; mandibular barbels with long slender

branches, outer $\frac{2}{5}$ or $\frac{1}{2}$ length of head, inner $\frac{1}{3}$. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rugose like the occiput, obtusely tectiform, slightly longer than broad, with obtuse posterior processes. Humeral process granulate, rounded or obtusely pointed, not extending quite so far back as occipito-nuchal process. Dorsal I 7; spine feebly curved, a little shorter than head, smooth in front, feebly serrated behind. Adipose dorsal 4 to 5 times as long as deep, 2 to 3 times as long as its distance from rayed dorsal. Anal IV 6–7. Pectoral spine nearly as long as head, much more strongly serrated on inner than on outer border. Ventral not reaching anal. Caudal deeply notched. Caudal peduncle nearly as long as deep. Brown, with rather indistinct darker spots and marblings; rayed fins with round dark spots, which may form transverse bands.

Total length 140 millim.

Ubanghi.—Type in Congo Museum, Tervueren.

1. One of the types. Banzyville. Capt. Royaux (C.).

49. SYNODONTIS NOTATUS.

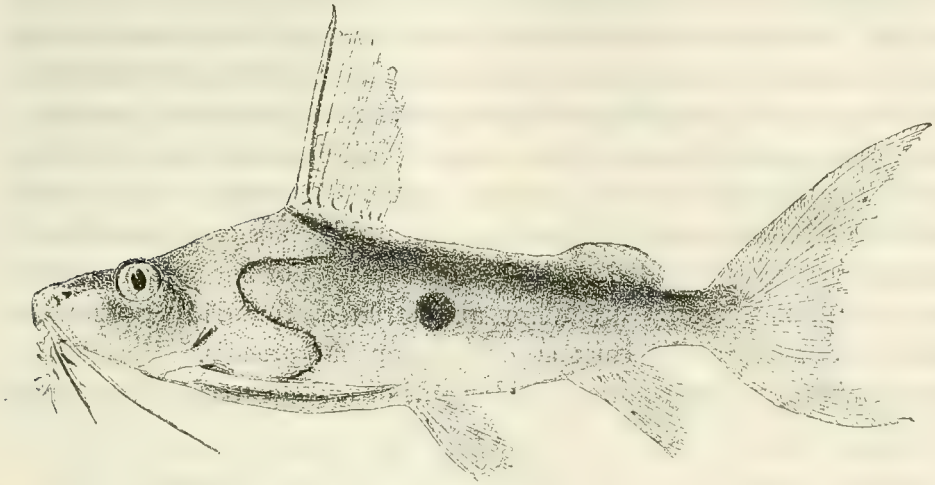
Synodontis maculatus (non Rüpp.), Vaill. C. R. Soc. Philom. 1892, no. 16, p. 2.

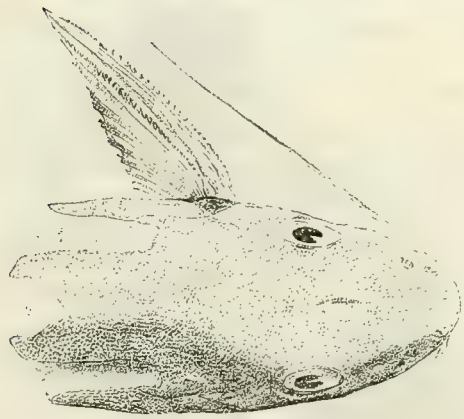
Synodontis notatus, Vaill. Bull. Soc. Philom. (8) v. 1893, p. 17, and N. Arch. Mus. (3) viii. 1896, p. 108, pl. xi. fig. 2; Bouleng. Poiss. Bass. Congo, p. 323 (1901).

Depth of body 4 times in total length, length of head $3\frac{1}{2}$ times. Head $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, broader than deep, finely granulate above from between the posterior nostrils; snout rounded, longer than postocular part of head; eye nearly lateral, 4 to $4\frac{1}{2}$ times in length of head, $1\frac{2}{3}$ to 2 times in interocular width; lips moderately developed; præmaxillary teeth small and wide apart, forming a short and broad band; movable mandibular teeth hardly $\frac{1}{4}$ diameter of eye, 17 to 20 in number. Maxillary barbel with a narrow marginal membrane at the base, a little longer than head, reaching middle or posterior third of pectoral spine; mandibular barbels with long, slender, ramified branches, outer twice as long as inner. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield granulate like the occiput, obtusely tectiform, $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, posterior processes rounded or truncate. Humeral process little longer than broad, flat, granulate, rounded or truncate behind, extending as far back as occipito-nuchal process. Dorsal I 7; spine a little shorter than head, smooth in front, smooth or very feebly serrated behind. Adipose

dorsal small, 3 to 4 times as long as deep, about $\frac{1}{2}$ as long as its distance from rayed dorsal. Anal IV 7–8, rounded. Pectoral spine as long as

Fig. 347.





Synodontis notatus.
Type, after Vaillant (*l. c.*). $\frac{1}{2}$.

head, strongly serrated on both sides, not reaching ventral. Latter rounded, reaching or nearly reaching anal. Caudal deeply forked, upper lobe a little produced. Caudal peduncle longer than deep. Greyish above, white beneath; a large round black spot on each side above the lateral line and the base of the ventral fin, sometimes preceded and followed by a few others.

Total length 220 millim.

Congo.—Types in Paris Museum.

1. Ad.	Ubanghi.	Capt. G. B. Gosling (P.).
2–4. Hgr. & yg.	Monsembe, Upper Congo.	Rev. J. H. Weeks (P.).

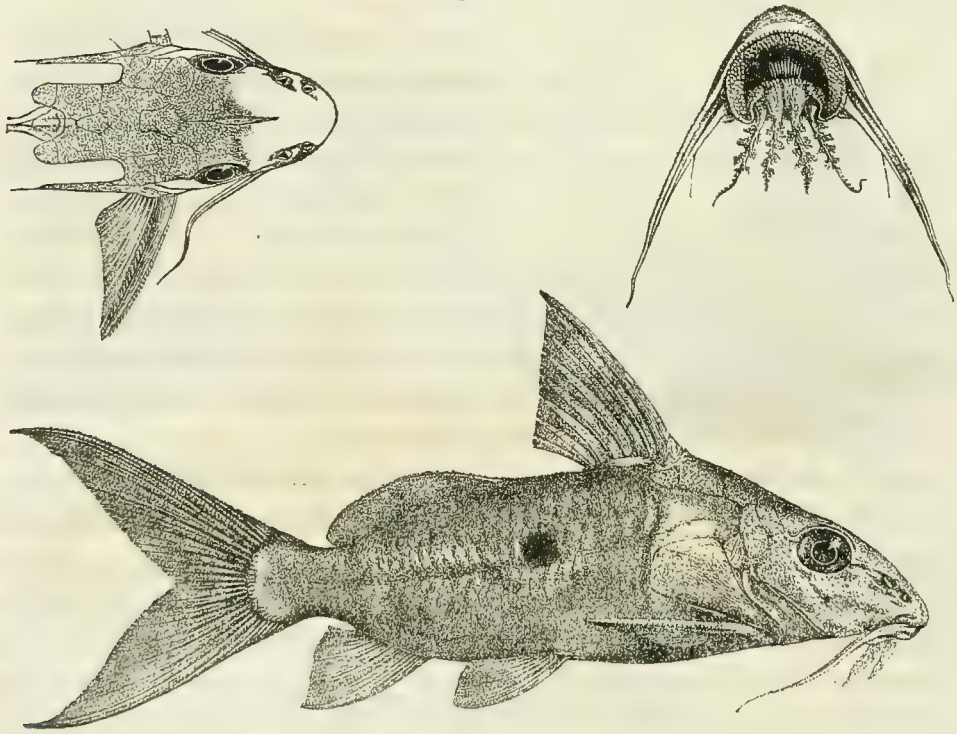
50. SYNODONTIS NUMMIFER.

Bouleng. Ann. Mus. Congo, Zool. i. p. 47, pl. xxiv. (1899), and Poiss. Bass. Congo, p. 324 (1901).

Depth of body $3\frac{1}{3}$ to $3\frac{1}{2}$ times in total length, length of head $3\frac{1}{3}$ to $3\frac{4}{5}$ times. Head $1\frac{1}{2}$ to 2 times as long as broad, deeper than broad, finely granulate above from between the eyes; snout obtusely pointed, longer

than postocular part of head; eye nearly lateral, 3 to 4 times in length of head, 1 to $1\frac{3}{4}$ times in interorbital width; lips moderately developed; præmaxillary teeth small and wide apart, forming a short and broad band; movable mandibular teeth $\frac{1}{4}$ to $\frac{1}{3}$ diameter of eye, 8 to 12 in number. Maxillary barbel with a broad marginal membrane at the base, as long as head or a little shorter, reaching root of pectoral spine or a little beyond; mandibular barbels with ramified obtuse branches, outer only a little longer than inner. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield granulate like the occiput, obtusely tectiform, $1\frac{1}{2}$ times as long as broad, posterior processes rounded. Humeral process not or but slightly longer than broad, flat, feebly granulate and striated, rounded or truncate behind, extending as far back as occipito-nuchal process. Dorsal I 7; spine straight or feebly curved, as long as or a little longer than head,

Fig. 348.



Synodontis nummifer.
Type (A. M. C.). $\frac{2}{3}$.

smooth in front, feebly serrated behind. Adipose dorsal about 4 times as long as deep, $1\frac{1}{3}$ to 2 times as long as its distance from rayed dorsal. Anal III 7–8, pointed. Pectoral spine a little shorter than head, strongly

serrated on both sides, not reaching ventral. Latter obtusely pointed, not quite reaching anal. Caudal very deeply forked. Caudal peduncle as long as deep. Olive above, whitish beneath; a large round black spot on each side above the lateral line and the base of the ventral fin, sometimes followed by a second above the base of the anal.

Total length 185 millim.

Congo.—Type in Congo Museum, Tervueren.

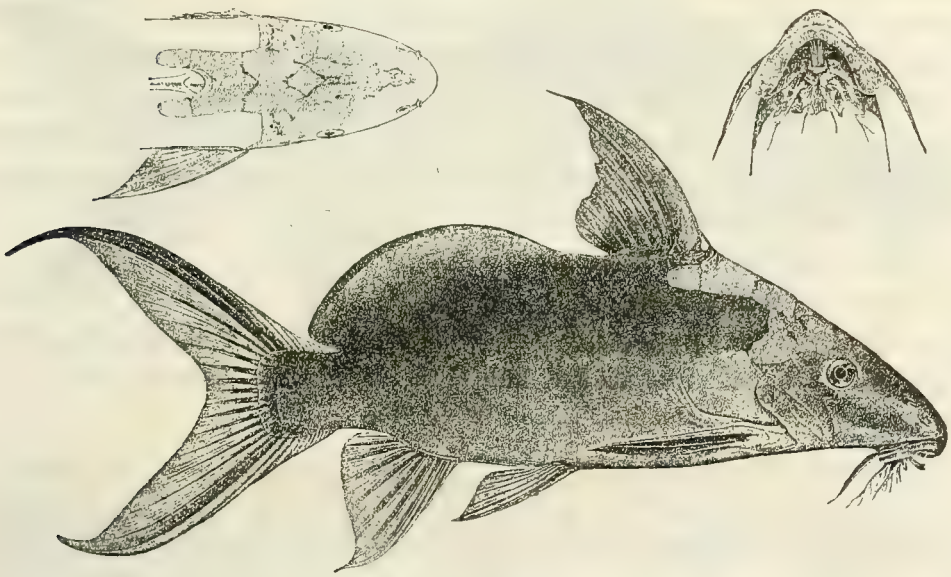
1. Ad.	Matadi, Lower Congo.	Capt. Wilverth (C.).
2. Hgr.	Sankun R., Kasai.	M. E. Luja (C.); Luxemburg Museum (P.).
3. Yg.	Dolo, Stanley Pool.	M. P. Delhez (C.).
4. Ad.	Upper Congo.	Brussels University.

51. SYNODONTIS SOREX.

Günth. Cat. Fish. v. p. 211 (1864), and Petherick's Trav. ii. p. 233, pl. i. fig. B (1869); Vaill. N. Arch. Mus. (3) viii. 1896, p. 107; Werner, Sitzb. Ak. Wien, cxv. i. 1906, p. 1140; Bouleng. Fish. Nile, p. 375, pl. lxxii. (1907).

Depth of body 3 to $4\frac{1}{2}$ times in total length, length of head 3 to $3\frac{1}{2}$

Fig. 349.



Synodontis sorex.
Mouth of L. No (F. N.). $\frac{1}{3}$.

times. Head $1\frac{1}{2}$ to $1\frac{2}{3}$ times as long as broad, more or less rugose, finely granulate above from between the eyes, the granulate area sometimes extending on the snout; snout pointed, $1\frac{1}{2}$ to 2 times as long as

postocular part of head; eye lateral, 5 (young) to $7\frac{1}{3}$ times in length of head, 2 to $3\frac{1}{2}$ times in interorbital width; lips strongly developed, forming a large lobe on each side; præmaxillary teeth few, in 2 or 3 series, a few minute ones behind; movable mandibular teeth as long as or a little longer than eye, 6 to 8 in number. Maxillary barbel with a broad marginal membrane at the base, $\frac{2}{5}$ to $\frac{1}{2}$ length of head; mandibular barbels with long, finely tuberculate, slender branches, outer $1\frac{1}{2}$ to 2 times as long as inner. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{1}{2}$ to 2 times as long as broad, posterior processes obtusely pointed or truncate. Humeral process little longer than broad, flat, granulate, rounded or obliquely truncate, extending as far or not quite so far back as occipito-nuchal process. Dorsal I 7; spine straight or curved, finely serrated in front, coarsely behind, slightly shorter or slightly longer than head, the soft terminal part produced into a short filament. Adipose dorsal 3 to 5 times as long as deep, 4 to 6 times as long as its distance from rayed dorsal. Anal IV 8, acutely pointed. Pectoral spine shorter than dorsal, rarely reaching base of ventral, outer border smooth or very finely serrated, inner border with strong serræ. Ventral acutely pointed, reaching origin of anal or a little beyond. Caudal very deeply forked, upper lobe the longer and often terminating in a filament. Caudal peduncle nearly as long as deep. Grey above, white below; rayed fins light, with a more or less distinct dark blotch on the dorsal near its base, and a dark band along each lobe of the caudal; barbels white.

Total length 380 millim.

Blue and White Niles.

1–2. Types.	Khartum.	J. Petherick, Esq. (C.).
3–4. Ad.	Wad Medine, Blue Nile.	L. Loat, Esq. (C.).
5. Ad.	Mouth of L. No, White Nile.	,,

52. SYNODONTIS PLEUROPS.

Bouleng. Ann. & Mag. N. H. (6) xx. 1897, p. 423, and Poiss. Bass. Congo, p. 326 (1901).

Depth of body equal to length of head, $3\frac{1}{3}$ to $3\frac{3}{4}$ times in total length. Head $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad, granulate above from between the eyes; snout pointed, a little less than $\frac{1}{2}$ length of head; eye lateral, $3\frac{1}{2}$ to 4 times in length of head, $2\frac{1}{3}$ to $2\frac{2}{3}$ times in interorbital width. Lips much developed; præmaxillary teeth forming a short and broad

band; movable mandibular teeth $\frac{1}{3}$ to $\frac{1}{2}$ diameter of eye, 12 to 19 in number. Maxillary barbel with a broad marginal membrane at the base, $\frac{3}{5}$ to $\frac{2}{3}$ length of head; mandibular barbels with obtuse, ramified branches, outer $\frac{1}{3}$ length of head, inner $\frac{1}{5}$. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield granulate like the head, obtusely tectiform, $1\frac{1}{3}$ to $1\frac{1}{2}$ times as long as broad; posterior processes rounded or obtusely pointed. Humeral process little longer than broad, flat, granulate, very obtusely pointed or truncate, not extending further back than occipito-nuchal process.

Fig. 350.

Synodontis pleurops,
Upper Congo. $\frac{1}{2}$.

Dorsal I 7; spine curved, smooth in front, feebly serrated behind, nearly as long as head. Adipose dorsal small, 2 to 3 times as long as deep, $\frac{1}{2}$ to $\frac{2}{3}$ as long as its distance from rayed dorsal. Anal IV 7–8, pointed. Pectoral spine a little shorter than head, not reaching ventral, outer border smooth, inner rather feebly serrated. Ventral obtusely pointed, reaching anal. Caudal deeply forked. Caudal peduncle a little longer than deep. Brown above, uniform or with rather indistinct round darker spots, whitish beneath; a more or less distinct blackish band along each lobe of the caudal.

Total length 230 millim.

Upper Congo.

1. Type.	Stanley Falls.	Rev. W. H. Bentley (C.).
2. Hgr.	Leopoldville.	Capt. Wilverth (C.).
3. Ad.	Upper Congo.	Brussels University.

53. SYNODONTIS DECORUS.

Bouleng. Ann. Mus. Congo, Zool. i. p. 49, pl. xxv. (1899), and Poiss. Bass. Congo, p. 327 (1901).

Depth of body equal to length of head, $3\frac{2}{3}$ to $3\frac{3}{4}$ times in total length.

Fig. 351.

Synodontis decorus.
Type (A. M. C.). $\frac{1}{2}$.

Head about $1\frac{1}{3}$ times as long as broad, as broad as deep, finely granulate above from between the eyes; snout pointed, nearly half length of head; eye supero-lateral, its diameter 4 to $4\frac{1}{2}$ times in length of head, $1\frac{1}{2}$ to 2 times in interorbital width. Mouth narrow, with strongly developed lips; præmaxillary teeth small and few, in 1 or 2 series; movable mandibular teeth hardly $\frac{1}{5}$ diameter of eye, 4 to 11 in number. Maxillary barbel bearing small branches on outer border, some bifid, its length $\frac{4}{5}$ to once length of head; mandibular barbels with long, mostly

ramified branches, outer the longer and $\frac{1}{2}$ to $\frac{3}{5}$ length of head. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield granulate like the occiput, obtusely tectiform, $1\frac{1}{2}$ times as long as broad, posterior processes pointed or rounded. Humeral process flat, granulate, broader than long, obtusely pointed or rounded behind. Dorsal I 7; spine curved, smooth in front, very feebly serrated behind, as long as head, bearing a long filament. Adipose dorsal nearly 3 times as long as deep, as long as its distance from rayed dorsal. Anal III 7, pointed. Pectoral spine nearly as long as head, reaching or nearly reaching ventral, smooth or very feebly serrated on outer border, strongly on inner. Ventral obtusely pointed, reaching anal. Caudal deeply forked. Caudal peduncle as long as deep. Brown above, white beneath; back of head dotted with black; body usually with large round black spots, few in number, disposed alternately; 3 or 4 black bars across the dorsal, and 3 or 4, oblique, on each lobe of caudal.

Total length 240 millim.

Upper Congo.—Types in Congo Museum, Tervueren.

1. One of the types.	Leopoldville.	Capt. Wilverth (C.).
2. Hgr.	Monsembe.	Rev. J. H. Weeks (P.).
3–4. Ad. & hgr.	Upper Congo.	Brussels University.
5. Ad.	Banzyville, Ubanghi.	Capt. Royaux (C.).

The specimen from the Upper Ubanghi described and figured by Vaillant (N. Arch. Mus. [3] viii. 1896, pl. xii. fig. 2) as a young *S. labeo* must probably be referred to this species (see Boulenger, Poiss. Bass. Congo, p. 328).

54. SYNODONTIS CLARIAS.

Silurus clarias, Linn. in Hasselq. Reis. Palæst. p. 412 (1762), and Syst. Nat. i. p. 504, part. (1766).

Silurus callarias, part., Bloch-Schneid. Syst. Ichth. p. 379 (1801).

Pimelodus synodontis, Geoffr. Descr. Egypte, Poiss, pl. xii. figs. 5 & 6 (1809).

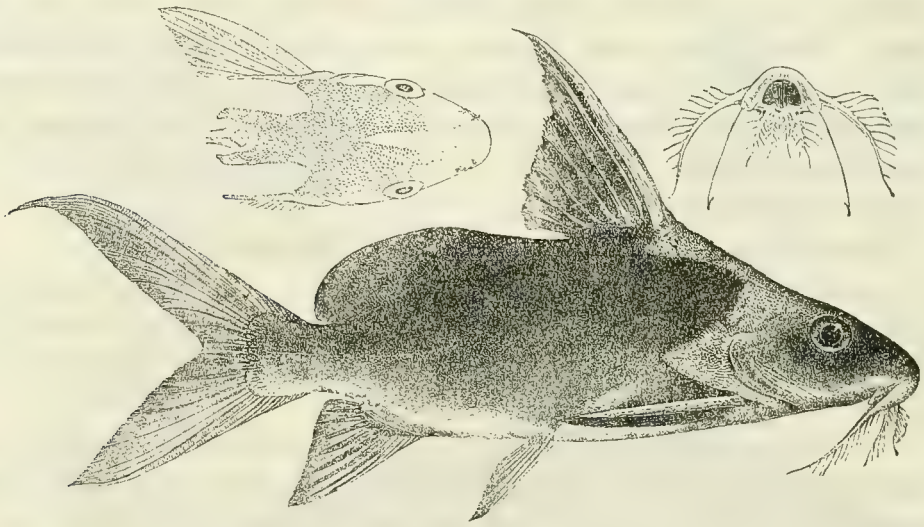
Synodontis macrodon, I. Geoffr. op. cit. p. 295 (1827); Cuv. & Val. Hist. Poiss. xv. p. 252 (1840); Günth. Cat. Fish. v. p. 211 (1864), and Petherick's Trav. ii. p. 234 (1869).

Synodontis clarias, Rüpp. Beschr. n. Fische Nil, p. 5 (1829); Vaill. N. Arch. Mus. (3) viii. 1896, p. 102; Bouleng. Fish. Nile, p. 377, pl. lxxiii. (1907).

Depth of body $3\frac{2}{3}$ to $4\frac{1}{3}$ times in total length, length of head 3 to $3\frac{1}{2}$ times. Head $1\frac{2}{5}$ to $1\frac{2}{3}$ times as long as broad, a little deeper than broad, rugose, granulate above from between the eyes, the granulate area

sometimes extending a little on the snout; snout pointed, as long as or longer than postocular part of head; eye lateral or nearly so, its diameter $4\frac{1}{2}$ (young) to 6 times in length of head, $1\frac{4}{5}$ to 3 times in interorbital width. Mouth narrow, with strongly developed lips, forming a large lobe on each side; præmaxillary teeth few, in 1, 2, or 3 series, sometimes with a few minute ones behind; movable mandibular teeth $\frac{2}{3}$ to once diameter of eye, 6 to 9 in number. Maxillary barbel with a distinct marginal membrane at the base and with long, slender, finely tuberculate branches, its length $\frac{3}{5}$ to nearly once that of head; mandibular barbels with long, tuberculate branches, the outer inserted further

Fig. 352.



Synodontis clarias.
Mouth of L. No (F. N.). $\frac{1}{2}$.

back than and $1\frac{1}{3}$ times as long as the inner. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rough like the occiput, obtusely tectiform, $1\frac{2}{3}$ to 2 times as long as broad, posterior processes obtuse or truncate. Humeral process subtriangular, flat, granulate, not extending so far back as occipito-nuchal process. Dorsal I 7; spine strongly curved, more or less distinctly finely serrated in front in its basal half, strongly serrated behind, as long as or longer than head, the soft terminal part produced into a short filament. Adipose dorsal 3 to $4\frac{1}{2}$ times as long as deep, 4 to 8 times as long as its distance from rayed dorsal. Anal V 7–9, acutely pointed. Pectoral spine shorter than dorsal, sometimes reaching ventral, outer border feebly serrated, inner border strongly serrated. Ventral acutely pointed,

reaching origin of anal or a little beyond. Caudal deeply forked, upper lobe the longer. Caudal peduncle as long as deep or a little deeper than long. Grey to dark green above, white beneath; fins greyish white, caudal often tinged with red. Young with dark marblings on the body and round dark spots on the ventral, anal, and caudal fins.

Total length 270 millim.

Nile, Chad Basin, Senegal, Gambia, Niger.

1. Hgr.	Cairo.	Dr. Rüppell (C.).
2. Yg.	Omdurman.	L. Loat, Esq. (C.).
3–5. Ad.	Wad Medine, Blue Nile.	,,
6. Ad.	Jebelain, White Nile.	,,
7. Yg.	Kaka, ,,	,,
8–10. Ad., hgr., & yg.	Fashoda, ,,	,,
11–15. Hgr. & yg.	Between Khartum and the Sobat.	Mr. P. C. Zaphiro (C.); W. N. McMillan, Esq. (P.).
16–25. Ad. & yg.	Mouth of L. No.	L. Loat, Esq. (C.).
26. Skel.	,,	,,
27. Ad.	L. Chad.	Capt. G. B. Gosling (P.).
28–30. Ad.	Nianimaru, Gambia.	J. S. Budgett, Esq. (P.).
31. Yg.	Warri, Low. Niger.	Mr. J. Paul Arnold (P.).

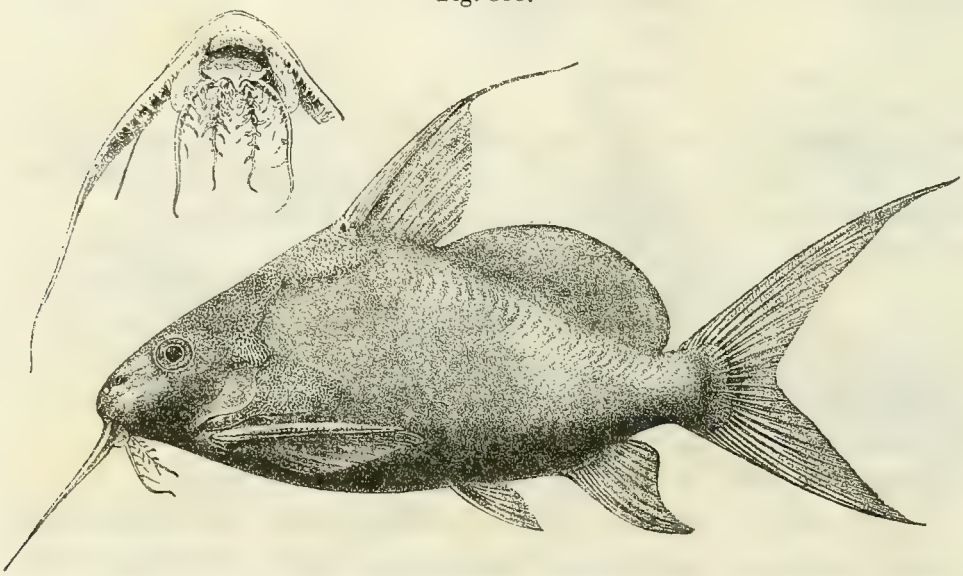
55. SYNODONTIS RESUPINATUS.

Boulenger, Proc. Zool. Soc. 1904, i. p. 199, pl. viii.

Depth of body $2\frac{1}{3}$ times in total length, length of head 4 times. Head $1\frac{1}{4}$ times as long as broad, deeper than broad, feebly rugose above from between the eyes; snout rounded, as long as postocular part of head; eye supero-lateral, its diameter 4 times in length of head, $1\frac{1}{2}$ times in interorbital width. Mouth narrow, with strongly developed lips, forming a lobe on each side; præmaxillary teeth very small, villiform, forming a broad band; movable mandibular teeth about $\frac{1}{4}$ diameter of eye, about 60 in number. Maxillary barbel slightly longer than head, its basal third with a broad marginal membrane on the inner side and a series of short obtuse branches, some of which are knob-like, on the outer side; mandibular barbels with long tuberculate branches, outer $\frac{1}{2}$ length of head, inner $\frac{1}{3}$. Gill-opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield feebly rugose like the occiput, obtusely tectiform, nearly twice as long as broad, with obtuse posterior processes. Humeral process longer than broad, flat, granulate, obtusely pointed, not extending quite so far back as occipito-

nuchal process. Dorsal I 7 ; spine feebly curved, not serrated, as long as head, with a very long filamentous prolongation. Adipose dorsal $2\frac{1}{2}$ times as long as deep, originating immediately behind rayed dorsal. Anal IV 8, pointed. Pectoral spine as long as head, not quite reaching ventral, feebly serrated on outer edge, strongly on inner. Ventral pointed, reaching origin of anal. Caudal deeply forked, upper lobe much produced. Caudal peduncle a little deeper than long. Pale greyish brown above and on the sides, black beneath ; fins grey ; barbels whitish.

Fig. 353.



Synodontis resupinatus.
Type (P. Z. S. 1904). $\frac{1}{2}$.

Total length 260 millim.
Upper Niger.

1. Type. Lokoja. J. S. Budgett, Esq. (P.).

56. SYNODONTIS BATENSODA.

Synodontis membranaceus, part., I. Geoffr. Descr. Egypte, Poiss. p. 297 (1827) ; Cuv. & Val. Hist. Poiss. xv. p. 258 (1840) ; Steind. Sitzb. Ak. Wien, lxi. i. 1870, p. 536.

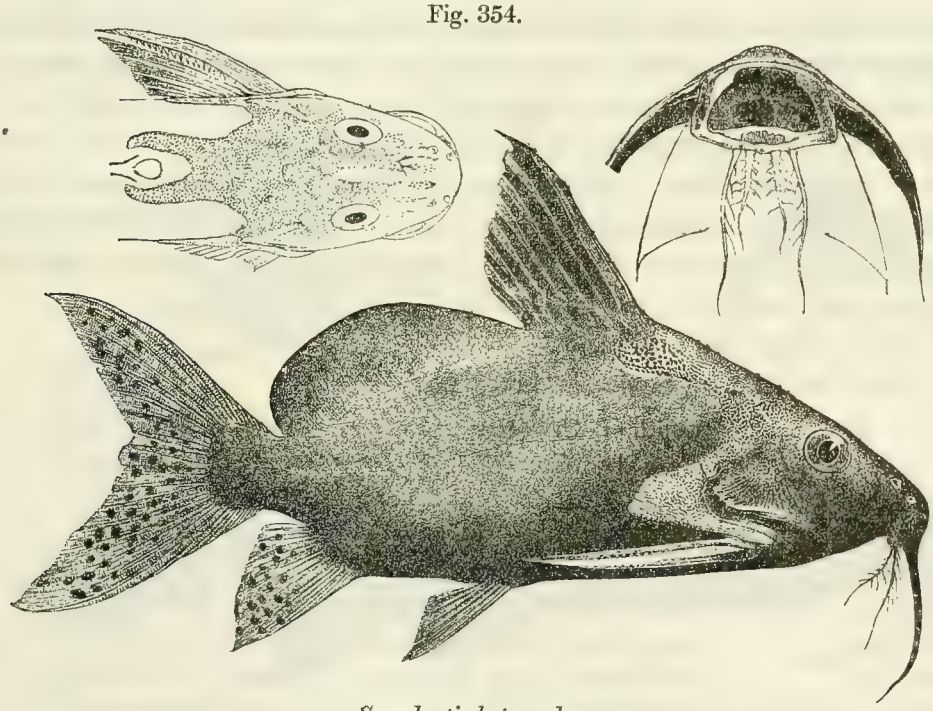
Synodontis batensoda, Rüpp. Fortsetz. Beschr. n. Fische Nil, p. 6, pl. iii. fig. 2 (1832) ; Bouleng. Ann. & Mag. N. H. (7) viii. 1901, p. 12, and Fish. Nile, p. 380, pl. lxxiv. (1907).

Brachysynodontis batensoda, Bleek. Nat. Tijdschr. Dierk. i. 1863, p. 55.

Synodontis melanogaster, Ehrenb. in Peters, Reise n. Mossamb. iv. p. 31 (1868).
Synodontis membranaceus, Vaill. N. Arch. Mus. (3) viii. 1896, pp. 161 & 167.

Depth of body $2\frac{2}{3}$ to 3 times in total length, length of head $2\frac{2}{3}$ to $3\frac{1}{3}$ times. Head $1\frac{1}{4}$ to $1\frac{3}{4}$ times as long as broad, rugose, granulate above from between the eyes, the granulate area sometimes extending a little on the snout; snout obtusely pointed, as long as or a little longer than postocular part of head; eye supero-lateral, $3\frac{1}{2}$ (young) to $5\frac{1}{3}$ times in length of head, not less than interorbital width in young, $1\frac{1}{2}$ to $1\frac{2}{3}$ times

Fig. 354.



Synodontis batensoda.
Mouth of L. No (F. N.). $\frac{1}{2}$.

in interorbital width in adult; operculum terminating in a few short spines. Lips moderately developed; præmaxillary teeth forming a short and broad band; movable mandibular teeth $\frac{1}{4}$ to $\frac{1}{3}$ diameter of eye, 30 to 57 in number. Maxillary barbel with a broad marginal membrane, $\frac{3}{5}$ to about once length of head, usually reaching base of pectoral spine or a little beyond; mandibular barbels inserted on a straight transverse line, the outer with long, slender, simple branches, $1\frac{1}{3}$ to 2 times as long as inner, some of the branches of which are bifid or trifid. Gill-openings extending downwards beyond base of pectoral fin, but separated by a broad isthmus, which at least equals interorbital width. Occipito-nuchal

shield rough like the occiput, obtusely tectiform, $1\frac{1}{2}$ to 2 times as long as broad, posterior processes pointed or rounded. Humeral processes about as long as broad, flat, granulate, pointed or obliquely truncate posteriorly, not extending so far back as occipito-nuchal process. Dorsal I 7; spine strong, straight or feebly curved, smooth in front, feebly serrated behind, about as long as head, the soft terminal part produced into a short filament. Adipose dorsal $2\frac{1}{2}$ to 4 times as long as deep, originating immediately behind rayed dorsal. Anal V 7–9, pointed. Pectoral spine as long as or a little longer than dorsal, not reaching base of ventral, outer border feebly, inner strongly serrated. Ventral acutely pointed, reaching origin of anal, or not quite so far. Caudal deeply forked. Caudal peduncle as long as deep or a little deeper than long. Body and adipose dorsal fin silvery grey to dark purplish; lower parts dark brown to black; barbels blackish; fins grey, ventrals, anal, and caudal with round black spots; iris brown; young with large dark spots, separated by a network of the light ground-colour, the spots on the fins larger and confluent into cross-bands.

Total length 240 millim.

Nile, Chad Basin, Senegal, Gambia.

1–3. Yg.	South of Khartum.	Capt. S. Flower (P.).
4–10, 11–14. Hgr. & yg.	Fashoda, White Nile.	L. Loat, Esq. (C.).
15–20. Ad. & yg.	Mouth of L. No, White Nile.	„
21. Skel.	„ „	„
22. Yg.	Bahr-el-Gebel.	Lieut. Drury (C.).
23. Ad.	Gondokoro, Bahr-el-Gebel.	L. Loat, Esq. (C.).
24. Ad.	R. Shari-Wasu at Maidugari.	Capt. G. B. Gosling (P.).
25–26. Ad. & hgr.	McCarthy Id., Gambia.	J. S. Budgett, Esq. (P.).

57. SYNODONTIS MEMBRANACEUS.

Pimelodus membranaceus, Geoffr. Descr. Egypte, Poiss. pl. xiii. figs. 1 & 2 (1809).

Synodontis membranaceus, part., I. Geoffr. op. cit. p. 297 (1827); Cuv. & Val. Hist. Poiss. xv. p. 258 (1840); Steind. Sitzb. Ak. Wien, lxi. i. 1870, p. 536.

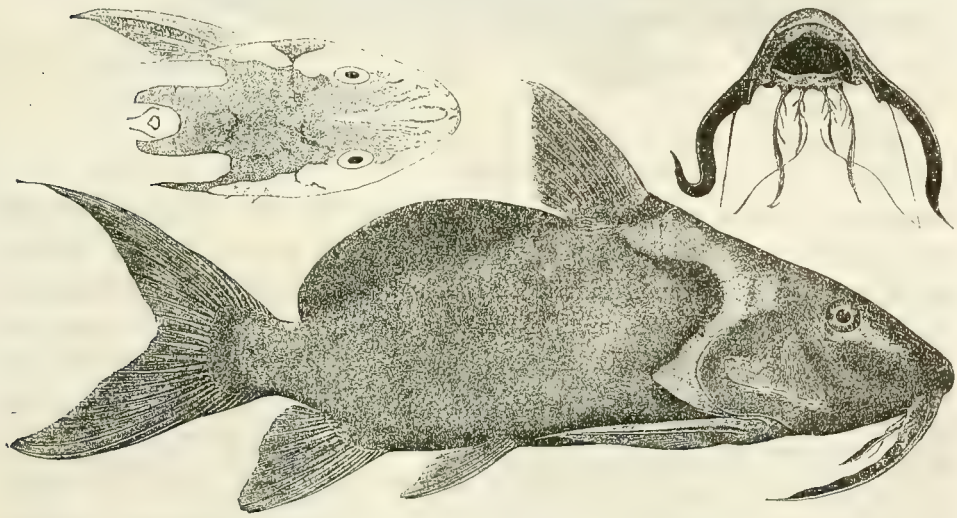
Hemisynodontis membranaceus, Bleek. Nat. Tijdschr. Dierk. i. 1863, p. 55.

Synodontis membranaceus, Günth. Cat. Fish. v. p. 215 (1864), and Petherick's Trav. ii. p. 236 (1869); Steind. Sitzb. Ak. Wien, lxxxiii. i. 1881, p. 200; Bouleng. Ann. & Mag. N. H. (7) viii. 1901, p. 12, and Fish. Nile, p. 383, pl. lxxv. (1907).

Synodontis guentheri, Vaill. Bull. Soc. Philom. (8) v. 1892, p. 16, and N. Arch. Mus. (3) viii. 1896, pp. 164 & 167.

Depth of body $2\frac{2}{3}$ to $3\frac{1}{3}$ times in total length, length of head $2\frac{1}{2}$ to 3 times. Head $1\frac{1}{4}$ to 2 times as long as broad, rugose, granulate above from between the eyes, the granulate area sometimes extending a little on the snout; snout obtusely pointed, as long as or a little shorter than postocular part of head; eye supero-lateral, 4 (young) to $6\frac{1}{2}$ times in length of head, not less than interorbital width in young, $1\frac{1}{2}$ to 2 times in interorbital width in adult. Mouth large, with feeble lips, except on the sides, where they are confluent with the membrane of the maxillary barbel and supported by a barbel-like dermal ray which extends to its extremity; præmaxillary teeth very feeble, forming a short and rather narrow band; mandibular teeth very minute, 8 to 14 in number, forming

Fig. 355.



Synodontis membranaceus.
Khartum (F. N.). $\frac{1}{3}$.

a small patch at the symphysis of the lower jaw. Maxillary barbel with a very broad membranous border almost to its extremity, as long as or a little longer or a little shorter than head, reaching root of pectoral spine or a little beyond; mandibular barbels inserted on a straight transverse line, with a few long, slender branches in basal half, with a membranous border in terminal half, inner $\frac{1}{3}$ to $\frac{2}{3}$ length of outer. Gill-openings separated on the throat by a narrow isthmus, the width of which is less than diameter of eye. Occipito-nuchal shield rough like the occiput, tectiform, $1\frac{1}{2}$ to 2 times as long as broad, posterior processes obtuse or truncate. Humeral process subtriangular, flat, granulate, as long as deep or deeper than long, not extending so far back as occipito-nuchal

process. Dorsal fin with I 7 rays; spine strong, straight or curved, smooth in front, feebly serrated behind, $\frac{3}{5}$ to $\frac{4}{5}$ length of head. Adipose dorsal 3 to 5 times as long as deep, originating immediately behind rayed dorsal. Anal V 8–9, acutely pointed. Pectoral spine usually as long as or a little longer than dorsal, not reaching base of ventral, outer border feebly, inner border strongly serrated. Ventral acutely pointed, reaching origin of anal or a little beyond. Caudal deeply forked. Caudal peduncle deeper than long. Silvery grey or whitish, the lower parts dark brown to black; barbels whitish, with the membranous border dark brown or black; young with ill-defined dark blotches on the body, and with round dark spots on the rayed fins, forming more or less regular transverse series.

Total length 455 millim.

Nile, Chad Basin, Senegal, Niger.

1–2, 3, 4. Ad. & yg., types of *S. guentheri*.	Khartum.	J. Petherick, Esq. (C.).
5. Yg.	Fashoda, White Nile.	L. Loat, Esq. (C.).
6–8. Ad.	Mouth of L. No.	,,
9. Skel.	,,	,,
10. Hgr.	Kano, Hadriji R., L. Chad.	Capt. G. B. Gosling (P.).
11. Yg.	Fort Lamy, Shari R.	,,
12. Hgr.	St. Louis, Senegal.	M. P. Delhez (C.).
13–15. Hgr.	Kaëdi, ,,	,,
16. Ad.	Lokoja, Upp. Niger.	J. S. Budgett, Esq. (P.).
17–19. Yg.	Abo, Low. Niger.	Dr. W. J. Ansorge (C.).
20. Yg.	Assay, ,,	,,
21–22. Yg.	Lagoon at Asaba, Low. Niger.	Major G. E. Bruce (P.).
23. Yg.	Niger Delta.	Dr. W. H. Crosse (P.).

29. MICROSYNODONTIS.

Boulenger. Proc. Zool. Soc. 1903, i. p. 26.

Like *Synodontis*, but eye without free orbital border.

Vertebræ 36 (13+23), transverse process of fourth with a spheroidal expansion in front.

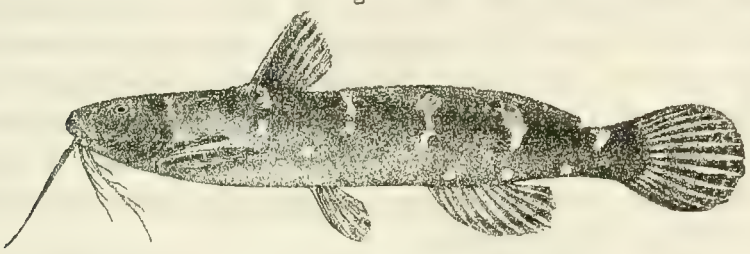
1. MICROSYNODONTIS BATESII.

Boulenger, l. c. pl. iv.

Depth of body $4\frac{2}{3}$ to 6 times in total length, length of head 4 to 5 times. Head a little longer than broad, rugose on vertex and occiput; snout rounded; eye supero-lateral, in middle of head, 5 (young) to 7

times in length of head, $1\frac{1}{2}$ to 2 times in interorbital width; lips rather strongly developed; præmaxillary teeth forming a short and broad band; mandibular teeth not more than $\frac{1}{2}$ diameter of eye, 20 to 30 in number. Maxillary barbel simple, as long as or a little longer than head; mandibular barbels with long slender branches, outer longer than inner and a little shorter than head. A fold across the throat, but gill-openings restricted to the sides. Occipito-nuchal shield rugose like the occiput, a little longer than broad, with obtuse or rounded posterior processes.

Fig. 356.



Microsynodontis batesii.
Type (P. Z. S. 1903).

Humeral process long and narrow, acutely pointed. Dorsal I 6; spine strong, straight, $\frac{2}{3}$ to $\frac{3}{4}$ length of head, striated, smooth or with a few very feeble posterior serræ in its upper part. Adipose dorsal low, elongate, 2 to 3 times as long as its distance from rayed dorsal. Anal III–IV 8–9, rounded. Pectoral spine strong, shorter than head, striated, feebly serrated on outer border, strongly on inner. Ventral not reaching anal. Caudal rounded. Caudal peduncle about as long as deep. Dark brown or blackish above, with 5 yellow cross-bars, the first on the occiput, the second at the base of the dorsal; the body lower down with round yellow spots; throat and belly greyish or pale brownish, spotted or marbled with dark brown; fins spotted with dark brown, caudal with a yellow bar at the base.

Total length 100 millim.

South Cameroon, Gaboon.

1–7. Types.	Mvile R., S. Cameroon.	G. L. Bates, Esq. (C.).
8. Skel.	,, ,,	,,
9. Hgr.	Near Efulen, S. Cameroon.	,,
10–11, 12–19. Ad., hgr., & yg.	Ja R., ,,	,,
20. Hgr.	Bumba R. at Assobam, S. Cameroon.	,,
21–26. Ad., hgr., & yg.	Nyong R., ,,	,,
27–28. Hgr.	Gaboon.	,,

30. CHILOGLANIS.

Peters, Mon. Berl. Ac. 1868, p. 599 ; Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 521, and Fish. Nile, p. 386 (1907).

Body moderately elongate, feebly depressed. Anterior dorsal entirely in advance of ventrals, formed of 1 spine and 5 branched rays; an adipose fin opposed to the anal; pectoral with a spine; ventral with 7 rays. A cephalo-nuchal bony shield. Mouth inferior, surrounded by a very large, circular, papillose lip; conical teeth on the præmaxillaries and on the vomer; movable, slender, curved teeth in the mandible; a maxillary and two mandibular barbels on each side; nostrils rather remote from each other, both with a valve, the anterior tubular; eyes small, without free border. Gill-openings short, confined to the sides. Air-bladder small, partially enclosed on each side between the enlarged processes of the anterior vertebræ.

Vertebræ 35 (15–16+19–20).

Nile and Tropical Africa.

Synopsis of the Species.

I. Maxillary barbel much longer than eye.

A. Dorsal with 5 branched rays.

1. Depth of body $5\frac{1}{2}$ to $6\frac{1}{2}$ times in total length; caudal peduncle 2 to $2\frac{1}{2}$ times as long as deep.

Interorbital width equal to or but slightly greater than distance between posterior nostril and eye; base of adipose fin $\frac{1}{3}$ to $\frac{1}{2}$ its distance from dorsal . . . . . 1. *C. deckenii*, Peters, p. 479.

Interorbital width much greater than distance between posterior nostril and eye; base of adipose fin $\frac{2}{3}$ its distance from dorsal . . 2. *C. modjensis*, Blgr., p. 480.

2. Depth of body 4 to 5 times in total length; caudal peduncle about $1\frac{1}{2}$ times as long as deep; base of adipose fin $\frac{2}{3}$ to $\frac{3}{4}$ its distance from dorsal.

Interorbital width greater than distance between posterior nostril and eye; caudal deeply emarginate . . . . . 3. *C. neumanni*, Blgr., p. 481.

Interorbital width greater than distance between posterior nostril and eye; caudal feebly emarginate . . . . . 4. *C. cameronensis*, Blgr., p. 482.

B. Dorsal with 6 or 7 branched rays; depth of body 4 to $4\frac{1}{2}$ times in total length; caudal peduncle about twice as long as deep; base of adipose fin equal to or a little less than its distance from dorsal . . . . . 5. *C. niloticus*, Blgr., p. 483.

II. Maxillary barbel not or but scarcely longer than eye; depth of body 5 to 6 times in total length; adipose fin not more than $\frac{1}{2}$ its distance from dorsal.

Anal with 7 branched rays; interorbital space greater than diameter of eye . . . . . 6. *C. brevibarbis*, Blgr., p. 484.

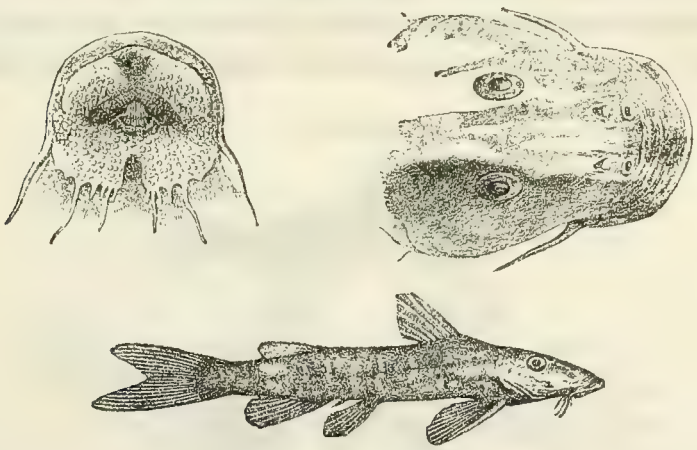
Anal with 5 or 6 branched rays; interorbital space not or but little greater than diameter of eye . . . . . 7. *C. batesii*, Blgr., p. 485.

1. CHILOGLANIS DECKENII.

Peters, Mon. Berl. Ac. 1868, p. 599, pl. ii., and Decken's Reise O.-Afr. iii. p. 144 (1869); Pfeff. Thierw. O.-Afr., Fische, p. 38, fig. (1896); Boulenq. Ann. & Mag. N. H. (7) vi. 1900, p. 521.

Synodontis eurystomus, Pfeff. Jahrb. Hamb. Wiss. Anst. vi. 1889, p. 14, and x. 1893, p. 31, pl. i. fig. 5.

Fig. 357.



Chiloglanis deckenii.
Type, after Peters (*l. c.*).

Body slightly depressed in front, compressed behind, its depth $5\frac{1}{2}$ to $6\frac{1}{2}$ times in total length. Head strongly depressed, a little longer than broad, its length 3 to $3\frac{1}{2}$ times in total length; eye directed upwards, in

second half of head, 5 to 7 times in length of head and $1\frac{1}{2}$ to $1\frac{2}{3}$ times in interorbital width, which equals or slightly exceeds the distance between eye and posterior nostril; two widely separated oval groups of præmaxillary teeth, forming 3 or 4 transverse series; 6 to 8 mandibular teeth; maxillary barbel about $\frac{1}{3}$ length of head, a little longer than the outer lower labials. Dorsal I 5; spine not distinctly serrated, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Adipose fin $\frac{1}{3}$ to $\frac{1}{2}$ its distance from rayed dorsal. Anal III 7–8. Pectoral spine a little longer than the dorsal, at least $\frac{2}{3}$ length of head. Ventral extending to origin of anal or a little beyond. Caudal deeply forked. Caudal peduncle nearly twice as long as deep. Olive-brown, with irregular darker cross-bands; a dark bar at the base of the caudal and another across each lobe of the fin.

Total length 70 millim.

German East Africa.—Types in Berlin Museum.

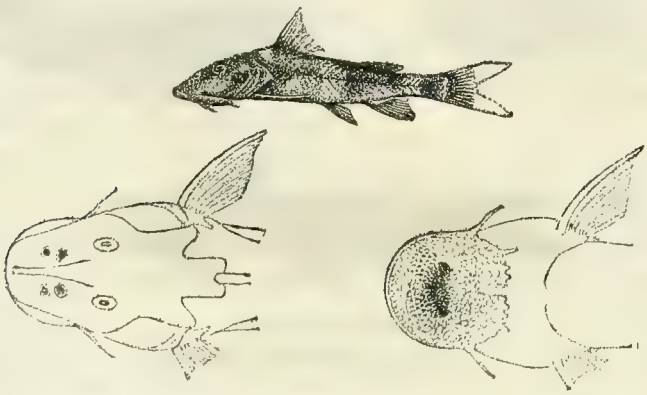
1. Ad.	Korogwe, Rufu R.	Dr. Stuhlmann (C.); Hamburg Museum (E.).
2–6. Ad.	Bereza.	Dr. E. J. Baxter (C.).
7. Skel.	„	„

2. CHILOGLANIS MODJENSIS.

Bouleng. Proc. Zool. Soc. 1903, ii. p. 332, pl. xxxi. fig. 3.

Body slightly compressed, its depth $5\frac{1}{2}$ times in total length. Head depressed, $1\frac{1}{3}$ times as long as broad, its length 3 times in total length.

Fig. 358.



Chiloglanis modjensis.
Type (P. Z. S. 1903).

Eye directed upwards, in second half of head, 7 times in length of head, $1\frac{2}{3}$ or 2 times in interorbital width, which much exceeds the distance

between eye and posterior nostril; præmaxillary teeth in two large contiguous groups, forming 4 or 5 transverse series; a group of 7 to 9 mandibular teeth; maxillary barbel $\frac{1}{4}$ length of head, longer than the lower labials. Dorsal I 5; spine not serrated, not quite $\frac{1}{2}$ length of head. Adipose fin low, its base about $\frac{2}{3}$ its distance from rayed dorsal. Anal III 6–7. Pectoral spine not serrated, $\frac{3}{5}$ length of head. Ventral extending to a little beyond origin of anal. Caudal peduncle $2\frac{1}{2}$ times as long as deep. Dark brown above and on the sides, with three yellowish bars, the first in front of the dorsal fin, the second above the ventral, the third on the caudal peduncle; lower parts white.

Total length 40 millim.

Modjo River (Webi Shebeli System), Southern Ethiopia.

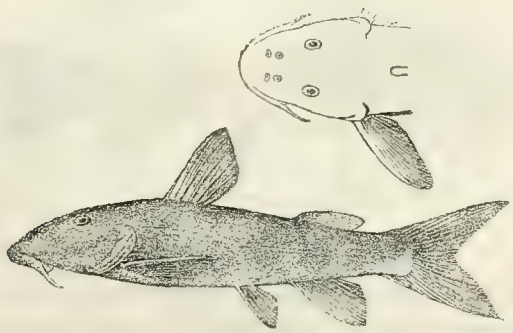
1. One of the types. Modjo R. Prof. O. Neumann and Baron C. von Erlanger (C.).

3. CHILOGLANIS NEUMANNI, sp. n.

Chiloglanis deckenii (non Peters), Hilgend. Zool. Jahrb., Syst. xxii. 1905, p. 411.

Body cylindrical in front, compressed behind, its depth 4 to $4\frac{1}{2}$ times in total length. Head depressed, $1\frac{1}{4}$ to $1\frac{1}{3}$ times as long as broad, its length 3 to $3\frac{1}{2}$ times in total length; eye directed upwards, in second half of head, 6 to 7 times in length of head, nearly twice in interorbital width, which is greater than the distance between eye and posterior

Fig. 359.



Chiloglanis neumanni.
Type. $\frac{4}{5}$.

nostril; two widely separated oval groups of præmaxillary teeth, forming 3 or 4 transverse series; two series of mandibular teeth, 6 to 8 in each; maxillary barbel about $\frac{1}{4}$ length of head, a little longer than outer lower labial. Dorsal I 5; spine not serrated, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Adipose

fin $\frac{2}{3}$ to $\frac{3}{4}$ its distance from rayed dorsal. Anal III 7–8. Pectoral spine as long as dorsal. Ventral extending to origin of anal or a little beyond. Caudal deeply forked. Brownish, uniform or speckled with blackish.

Total length 50 millim.

Bubu River, Masailand.

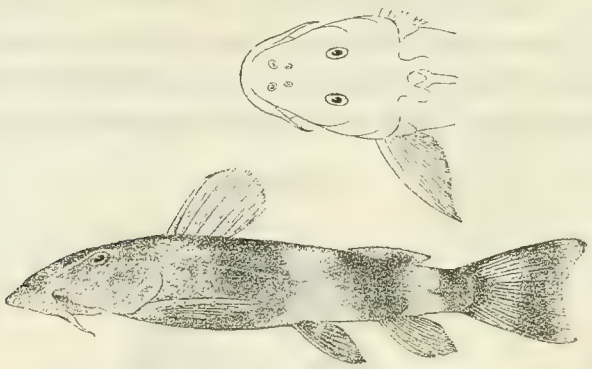
1–5. Types. Upper Bubu R. Prof. O. Neumann (C.).

4. CHILOGLANIS CAMERONENSIS.

Bouleng. Ann. & Mag. N. H. (7) xiv. 1904, p. 18.

Body somewhat depressed in front, compressed behind, its depth $4\frac{1}{2}$ to 5 times in total length. Head depressed, $1\frac{1}{3}$ times as long as broad, its length 3 times in total length. Eye directed upwards, in second half of head, 7 or 8 times in length of head, $1\frac{2}{3}$ times in interorbital width, which equals or is a little less than the distance between eye and posterior nostril; præmaxillary teeth in two large oval groups, well separated on the middle line, forming 4 or 5 transverse series; a group

Fig. 360.



Chiloglanis cameronensis.
Type. $\frac{4}{3}$.

of 12 to 14 mandibular teeth; maxillary barbel $\frac{1}{4}$ to $\frac{1}{3}$ length of head, longer than the lower labials. Dorsal I 5; spine not serrated, about $\frac{3}{5}$ length of head. Adipose fin low, its base about $\frac{2}{3}$ its distance from rayed dorsal. Anal III 5–6. Pectoral spine not serrated, $\frac{3}{5}$ to $\frac{2}{3}$ length of head. Ventral extending to origin of anal or a little beyond. Caudal slightly emarginate. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Pale brownish above; head marbled with dark olive and with a chevron-shaped dark band passing through the eyes, the point on the

occiput; three broad dark cross-bands on the body, the first behind the dorsal, the second across the base of the adipose fin, the third at the base of the caudal; fins whitish, with a dark band across the caudal.

Total length 55 millim.

South Cameroon.

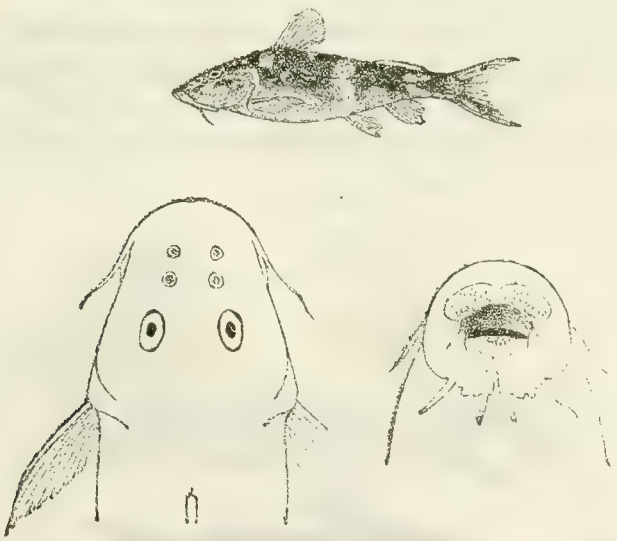
1–7. Types.	Efulen.	G. L. Bates, Esq. (C.).
8–9. Ad.	,,	,,

5. CHILOGLANIS NILOTICUS.

Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 522, and Fish. Nile, p. 386, pl. lxxvi. fig. 1 (1907).

Body not or but slightly compressed, its depth 4 to $4\frac{1}{2}$ times in total length. Head smooth, strongly depressed, a little longer than broad, its length 3 to $3\frac{1}{2}$ times in total length. Snout broadly rounded; eye directed upwards, in second half of head, 6 times in length of head,

Fig. 361.



Chiloglanis niloticus.
Type (F. N.).

about $1\frac{1}{2}$ times in width of interorbital region, which is much greater than distance between posterior nostril and eye. Præmaxillary teeth in two large oval groups, narrowly separated from each other; mandibular teeth very small, 6 to 11 in number. Maxillary barbel about $\frac{1}{3}$ length of head, longer than lower labials. Dorsal I 6–7; spine not distinctly serrated, about $\frac{2}{5}$ length of head. Adipose fin low, as long

as or a little shorter than its distance from rayed dorsal. Anal III 7–8. Pectoral spine not serrated, about $\frac{3}{5}$ length of head. Ventral extending to origin of anal or a little beyond. Caudal deeply forked, lobes pointed. Caudal peduncle about twice as long as deep. Body pale greyish olive above, with four broad cross-bands of dark olive speckled with blackish, broader than the interspaces between them; head dark olive above; lower parts white or yellowish; rayed fins greyish, the caudal with a horizontal blackish bar on each lobe, the end of which is pale yellow; adipose fin yellowish.

Total length 45 millim.

Upper Nile.

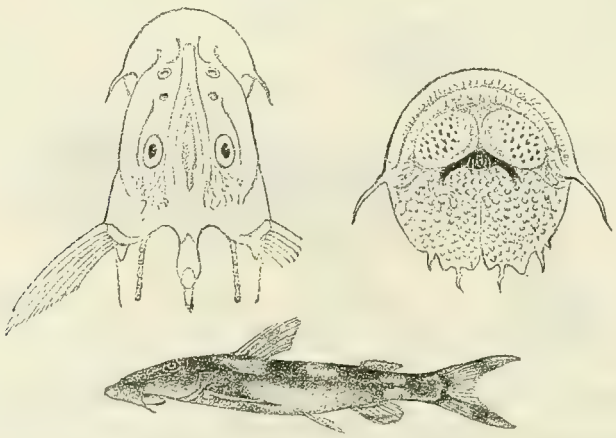
1–7. Types.	Arko Id.	L. Loat, Esq. (C.).
8. Skel.	„	„
9. Ad.	Wady Halfa.	„

6. CHILOGLANIS BREVIBARBIS.

Boulenger. Proc. Zool. Soc. 1902, ii. p. 224, pl. xvii. fig. 2.

Body slightly depressed in front, compressed behind, its depth 6 times in total length. Head strongly depressed, $1\frac{1}{3}$ times as long as

Fig. 362.



Chiloglanis brevibarbis.
Type (P. Z. S. 1902).

broad, its length 3 times in total length; eye directed upwards, in second half of head, $5\frac{1}{2}$ times in length of head, $1\frac{1}{3}$ times in interorbital width, which is a little greater than the distance between eye and posterior nostril; præmaxillary teeth in two large oval groups, widely

separated on the median line, forming 4 or 5 transverse series; 6 mandibular teeth; maxillary barbel scarcely longer than eye, lower labials shorter still. Dorsal I 5; spine not serrated, $\frac{1}{2}$ length of head. Adipose fin low, $\frac{1}{2}$ as long as its distance from rayed dorsal. Anal III 7. Pectoral spine $\frac{2}{3}$ length of head. Ventral extending to origin of anal. Caudal deeply forked. Caudal peduncle nearly twice as long as deep. Pale brownish above, with four irregular dark cross-bands connected by a dark lateral stripe, whitish beneath; two dark bars across the anal; a dark bar at the base of the caudal, another across each lobe of the fin, and a dark streak along the lower lobe.

Total length 55 millim.

Mathoiya River (Tana System), Kenya district.

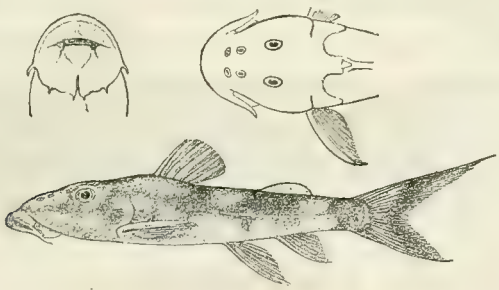
1. Type. Mathoiya R. S. L. Hinde, Esq. (P.).

7. CHILOGLANIS BATESII.

Boulenger. Ann. & Mag. N. H. (7) xiv. 1904, p. 19.

Body somewhat depressed in front, compressed behind, its depth 5 to 6 times in total length. Head depressed, $1\frac{1}{3}$ times as long as broad, its length 3 times in total length; eye directed upwards, in second half of head, 5 to 6 times in length of head and equal to or a little less than interorbital width, which exceeds the distance between eye and posterior

Fig. 363.



Chiloglanis batesii.
Type. $\frac{4}{3}$.

nostril; præmaxillary teeth in two large oval groups, well separated on the middle line, forming 3 or 4 transverse series; a group of 8 to 12 mandibular teeth; maxillary barbel as long as eye, lower labial barbels shorter still. Dorsal I 5; spine not serrated, $\frac{2}{5}$ to $\frac{1}{2}$ length of head. Adipose low, its base barely $\frac{1}{2}$ its distance from the rayed dorsal. Anal III 5–6. Pectoral spine not serrated, about $\frac{1}{2}$ length of head.

Ventral extending beyond origin of anal. Caudal deeply forked, upper lobe more or less produced. Caudal peduncle twice as long as deep. Yellowish brown above, with large dark brown marblings forming more or less regular cross-bands; a black bar at the base of the caudal; lower parts white; fins whitish, a greyish band across the caudal.

Total length 38 millim.

South Cameroon.

1–4. Types.	Efulen.	G. L. Bates, Esq. (C.).
5. Type.	Tributaries of Lobi R., S.W. of Efulen.	,,
6. Hgr.	Lobi R.	,,
7–16. Ad. & hgr.	Ja R.	,,

31. EUCHILICHTHYS.

Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 522, Poiss. Bass. Congo, p. 330 (1901), and Ann. Mus. Congo, Zool. ii. p. 47 (1902).

Body moderately elongate, not or but feebly compressed. Dorsal fin entirely in advance of ventrals, formed of a spine and 6 branched rays; an adipose fin opposed to the anal, which is short. Pectoral with a spine. Ventral with 7 rays. A cephalo-nuchal bony shield. Mouth large, inferior, surrounded by a much-developed, circular, papillose lip; a broad band of pointed, curved, movable teeth in the præmaxillaries, this band entirely in advance of the narrower band of mandibular teeth, the base of which is long and slender, the crown truncate or notched and bent up hook-like. A barbel on each side, and a pair of very short ones on each side of the lower section of the circular lip. Nostrils rather close together, the posterior with a valve; eye with free border. Gill-openings short, confined to the sides. Air-bladder small, free, trilocular.

Vertebræ 37 (16+21). 8 branchiostegal rays.

Congo System.

Synopsis of the Species.

Depth of body 7 times in total length; eye 10 times in length of head, 5 times in inter-ocular width; base of adipose fin $\frac{1}{4}$ its distance from dorsal . . . . . 1. *E. guentheri*, Schilth., p. 487.

Depth of body $5\frac{1}{2}$ to $6\frac{1}{2}$ times in total length; eye 5 to 7 times in length of head, 2 to 3

times in interocular width; base of adipose fin $\frac{2}{5}$ to $\frac{1}{2}$ its distance from dorsal . . . . 2. *E. royauxi*, Blgr., p. 488.

Depth of body $4\frac{1}{2}$ times in total length; eye 5 to $5\frac{1}{2}$ times in length of head, 2 times in interocular width; base of adipose fin nearly equal to its distance from dorsal . . . . 3. *E. dybowskii*, Vaill., p. 489.

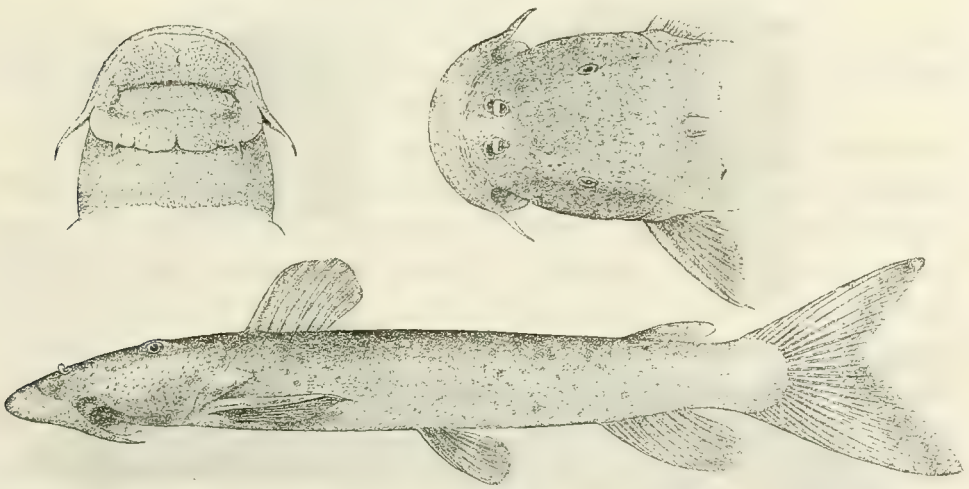
1. EUCHILICHTHYS GUENTHERI.

Atopochilus guentheri, Schilth. Tijdschr. Nederl. Dierk. Ver. (2) iii. 1891, p. 86, pl. vi. fig. 2.

Euchilichthys guentheri, Ann. & Mag. N. H. (7) vi. 1900, p. 523, and Poiss. Bass. Congo, p. 331 (1901).

Depth of body $\frac{2}{3}$ its greatest width, 7 times in total length. Head large, much depressed, covered with soft skin, a little longer than broad, its length $3\frac{1}{2}$ times in total length; snout broadly rounded, nearly twice as long as postocular part of head; nostrils nearer end of

Fig. 364.



Euchilichthys guentheri.
Type. $\frac{1}{2}$.

snout than eye, the diameter of which is 10 times in length of head, 5 times in interocular width; buccal cleft straight, nearly half length of head; mandibular teeth notched; lateral barbel $\frac{1}{4}$ length of head, posterior barbels about half diameter of eye. Dorsal I 6, originating immediately behind pectorals; spine strong, covered with skin, measuring $\frac{1}{4}$ length of head. Adipose fin $\frac{1}{4}$ its distance from rayed dorsal. Anal 10 (3 rays rudimentary). Pectoral spine $\frac{1}{2}$ length of head, its

inner border with strong retrorse spines. Ventrals not reaching anal. Caudal forked, lower lobe the longer. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Skin villose. Dark brown, with small round black spots on the anterior parts.

Total length 190 millim.

Congo (Stanley Pool).

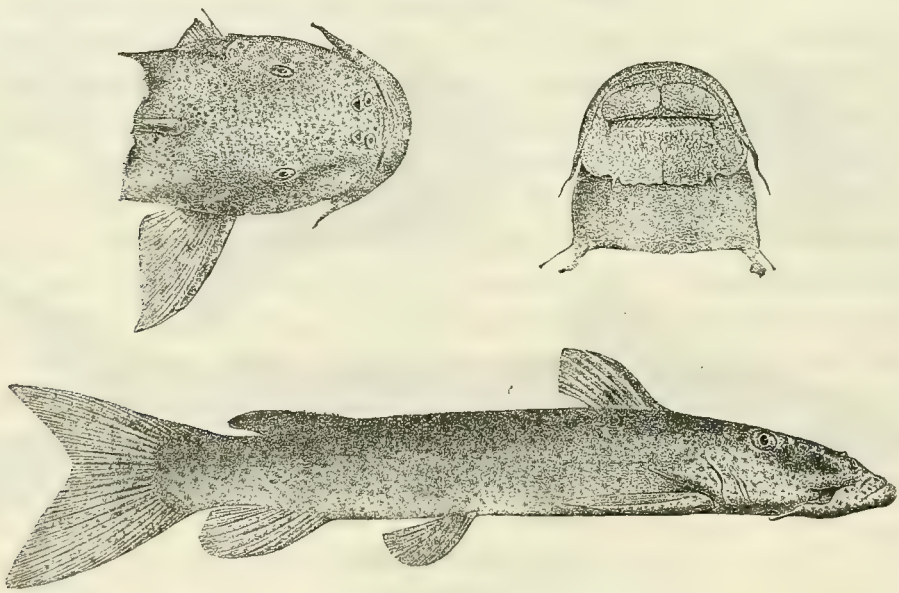
1. Type. Kinshassa. M. A. Greshoff (C.) ; Utrecht University Museum (E.).

2. EUCHILICHTHYS ROYAUXI.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 46, pl. xiii. (1902).

Depth of body about $\frac{2}{3}$ its greatest width, $5\frac{1}{2}$ to $6\frac{1}{2}$ times in total length. Head large, much depressed, covered with soft skin, a little longer than broad, its length 3 to $3\frac{3}{4}$ times in total length; snout

Fig. 365.



Euchilichthys royauxi.
Type (A. M. C.). $\frac{1}{2}$.

broadly rounded, nearly twice as long as postocular part of head; nostrils nearer end of snout than eye, the diameter of which is 5 to 7 times in length of head, 2 to 3 times in interocular width; buccal cleft straight, about $\frac{1}{2}$ length of head; mandibular teeth truncate or feebly notched; lateral barbel $\frac{1}{4}$ length of head, posterior about $\frac{1}{2}$

diameter of eye. Dorsal I 6, originating immediately behind pectorals; spine strong, covered with skin, $\frac{1}{3}$ to $\frac{1}{2}$ length of head. Adipose fin $\frac{2}{5}$ to $\frac{1}{2}$ its distance from rayed dorsal. Anal III–IV 6–7. Pectoral spine $\frac{1}{2}$ to $\frac{2}{3}$ length of head, inner border serrated. Ventrals not reaching anal. Caudal forked, lower lobe the longer. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Skin villose. Olive or brownish, often with small round black spots; caudal region sometimes darker, with a yellowish ring round the caudal peduncle behind the adipose fin.

Total length 220 millim.

Congo System.—Type in Congo Museum, Tervueren.

1. One of the types.	Banzyville, Ubanghi.	Capt. Royaux (C.).
2. Skel.	" "	"
3–4. Hgr. & yg.	Lindi R., Upp. Congo.	M. M. Storms (C.); Brussels Museum (P.).
5–9. Ad. & hgr.	Libi R., S. Cameroon.	G. L. Bates, Esq. (C.).

3. EUCHILICHTHYS DYBOWSKII.

Chiloglanis dybowskii, Vaill. C. R. Soc. Philom. 1892, no. 16, p. 2.

Euchilichthys dybowskii, Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 523, and Poiss. Bass. Congo, p. 332 (1901).

Body a little deeper than broad, its depth $4\frac{1}{2}$ times in total length. Head large, moderately depressed, covered with a very thin skin, not quite $1\frac{1}{2}$ times as long as broad, its length $2\frac{2}{3}$ times in total length; snout rounded, nearly twice as long as postocular part of head; nostril nearer end of snout than eye, the diameter of which is 5 to $5\frac{1}{2}$ times in length of head, twice in interocular width; buccal cleft straight, $\frac{2}{5}$ length of head; mandibular teeth with truncate crowns; lateral barbel nearly $\frac{1}{4}$ length of head, posterior shorter still. Dorsal I 6; spine strong and smooth, $\frac{2}{5}$ length of head. Adipose fin much longer than deep, nearly as long as its distance from rayed dorsal. Anal 10 (3 rays rudimentary). Pectoral spine $\frac{3}{5}$ length of head, inner border with 4 or 5 strong retrorse serræ. Ventrals extending a little beyond origin of anal. Caudal deeply emarginate. Caudal peduncle as long as deep. Skin villose on sides of body. Pale brown; a blackish band across the dorsal, another across the pectorals; ventrals and anal blackish.

Total length 39 millim.

Ubanghi.—Types, in Paris Museum, examined.

32. ATOPOCHILUS.

Sauvage, Bull. Soc. Philom. (7) iii. 1878, p. 96, and N. Arch. Mus. (2) iii. 1880, p. 42 ; Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 524.

Body moderately elongate, feebly depressed. Dorsal fin entirely in advance of ventrals, formed of a spine and 6 branched rays; an adipose fin opposed to the anal, which is short. Pectoral with a strong spine. Ventral with 7 rays. A cephalo-nuchal bony shield. Mouth large, inferior, surrounded by a much developed, circular, papillose lip; teeth fine, slender, movable, truncate, bent at an obtuse angle and forming a very broad band in the præmaxillaries, this band entirely in advance of the narrower band of mandibular teeth, which are similar to the præmaxillaries, but closer together; conical teeth on the vomer; a barbel on each side, and another pair on the posterior border of the lip; nostrils close together, the posterior with a valve; eyes with free border. Gill-openings short, confined to the sides.

Gaboon to Angola.

Two species :—

Length of head $3\frac{3}{5}$ times in total length ; eye $4\frac{1}{2}$ times in length of head and not more than twice in interorbital width ; anal with 11 rays	1. *A. savorgnani*, Sauv., p. 490.
Length of head $2\frac{3}{4}$ times in total length ; eye $6\frac{1}{2}$ times in length of head and $2\frac{1}{2}$ times in interorbital width ; anal with 9 rays .	2. *A. macrocephalus*, Blgr., p. 491.

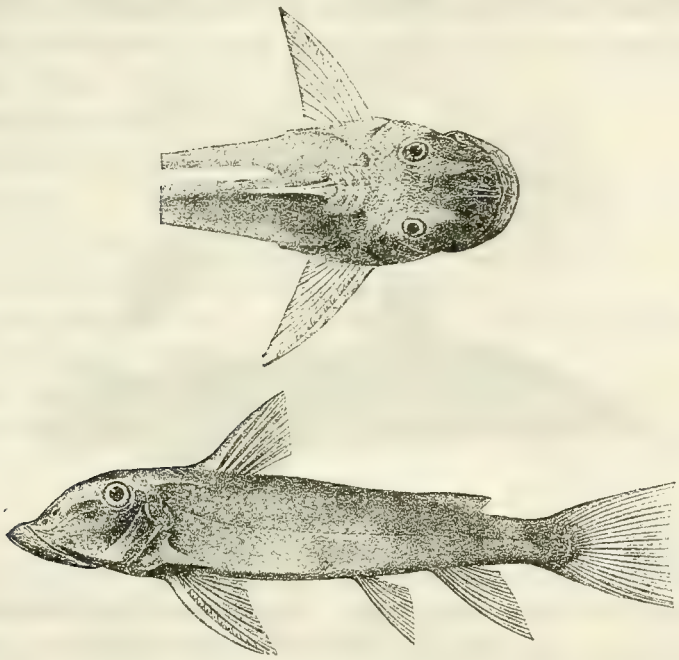
1. ATOPOCHILUS SAVORGNANI.

Sauv. ll. cc. pl. iii. fig. 3 ; Bouleng. l. c.

Depth of body a little less than its greatest width, $5\frac{2}{3}$ times in total length. Head depressed, $1\frac{1}{2}$ times as long as deep, a little longer than broad, its length $3\frac{3}{5}$ times in total length; upper surface of head a little rugose; snout broadly rounded, its length $2\frac{1}{2}$ times postocular part of head; nostrils nearer end of snout than eye, the diameter of which is $4\frac{1}{2}$ times in length of head, $1\frac{2}{3}$ times in interorbital width; buccal cleft straight, $\frac{3}{5}$ length of head; band of mandibular teeth not half as broad as that of præmaxillaries; lateral barbel $\frac{1}{4}$ length of head, more than twice as long as posterior barbel. Occipito-nuchal shield as long as broad, ending in two points. A striated, acutely pointed humeral process. Dorsal I 6 ; spine striated, $\frac{2}{3}$ length of head. Adipose dorsal 3 times as long as deep, $\frac{3}{5}$ its distance from rayed dorsal. Anal 11

(2 rays rudimentary). Pectoral spine strong, striated, strongly serrated on inner side, $\frac{3}{4}$ length of head. Ventral nearly reaching origin of anal. Caudal peduncle $1\frac{1}{2}$ times as long as deep. Greyish above, with

Fig. 366.



Atopochilus savorgnani.
Type, after Sauvage, *l. c.*

a dark band between the adipose fin and the anal, and a dark blotch at the base of the caudal; fins transparent, without markings.

Total length 90 millim.

Upper Ogowe.—Type, in Paris Museum, examined.

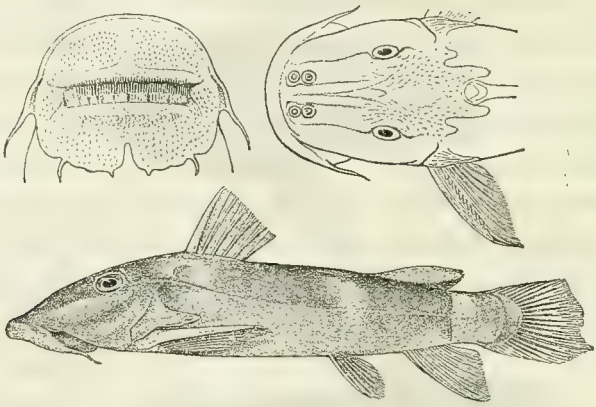
2. ATOPOCHILUS MACROCEPHALUS.

Bouleng. Ann. & Mag. N. H. (7) xvii. 1906, p. 112.

Depth of body $\frac{2}{3}$ its greatest width, 5 times in total length. Head much depressed, $1\frac{1}{3}$ times as long as broad, its length $2\frac{3}{4}$ times in total length, its upper surface slightly rugose; snout broadly rounded, its length $2\frac{1}{3}$ times postocular part of head; nostrils nearer end of snout than eye, the diameter of which is $6\frac{1}{2}$ times in length of head and $2\frac{1}{2}$ times in interorbital width; buccal cleft $\frac{3}{5}$ length of head; band of præmaxillary teeth interrupted in the middle, as broad as the lower lip; lateral barbel $\frac{1}{4}$ length of head, more than twice as long as posterior

barbel. Occipito-nuchal shield broader than long. A striated, acutely pointed humeral process. Dorsal I 6; spine striated, $\frac{2}{5}$ length of head. Adipose fin 3 times as long as deep, $\frac{2}{3}$ its distance from rayed dorsal. Anal 9 (3 rays rudimentary). Pectoral spine striated, serrated on inner border, $\frac{3}{5}$ length of head. Ventral reaching origin of anal. Caudal

Fig. 367.



Atopochilus macrocephalus.
Type.

peduncle slightly longer than deep. Slate-grey when fresh, with three yellowish bars on the body, the first above the pectoral fin, the second in front of the adipose fin, the third on the caudal peduncle; head greenish grey above, greenish yellow beneath; fins greenish yellow, ventrals, anal, and caudal with a dark brown bar.

Total length 75 millim.

Kwango River (Congo System), Angola.

1. Type. Kwango R. at Fort Don Carlos. Dr. W. J. Ansorge (C.).

33. MOCHOCUS.

Joannis, Mag. Zool. 1835, iv.; Günth. Cat. Fish. v. p. 217 (1864); Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 525, and Fish. Nile, p. 388 (1907).

Rhinoglanis, Günth. t. c. p. 216.

Body moderately elongate, slightly compressed. Anterior dorsal ending over the ventrals, formed of a strong spine and 6 to 8 branched rays; a second dorsal, formed of soft rays *, above the short anal fin.

* This second dorsal fin corresponds to the adipose fin of most Siluridæ; the rays are true articulated rays, but, as in *Clarotes*, they are devoid of endoskeletal supports, or interneurals.

Pectoral fin with a strong spine; ventral fin with 7 rays. A cephalo-nuchal bony shield. Mouth subinferior, small, without labial folds; small conical teeth in both jaws, none on the palate. A maxillary and two mandibular barbels on each side, the latter branched. Nostrils rather remote from each other, both with a valve, the posterior very large. Eye moderate, without free border. Gill-openings small, confined to the sides. Air-bladder large, free.

Vertebræ 33–34 (11+22–23).

Nile and Lake Rudolf.

Two species:—

First dorsal fin much nearer end of snout than root of caudal, with the spine serrated in front and with 7 or 8 soft rays	1. *M. niloticus*, Joann., p. 493.
First dorsal fin nearly equally distant from end of snout and from root of caudal, with the spine smooth in front and with 6 soft rays .	2. *M. brevis*, Blgr., p. 495.

1. MOCHOCUS NILOTICUS.

Joannis, l. c. pl. viii.; Günth. l. c., and Petherick's Trav. ii. p. 239 (1869); Bouleng. ll. cc. pl. lxxvi. p. 2.

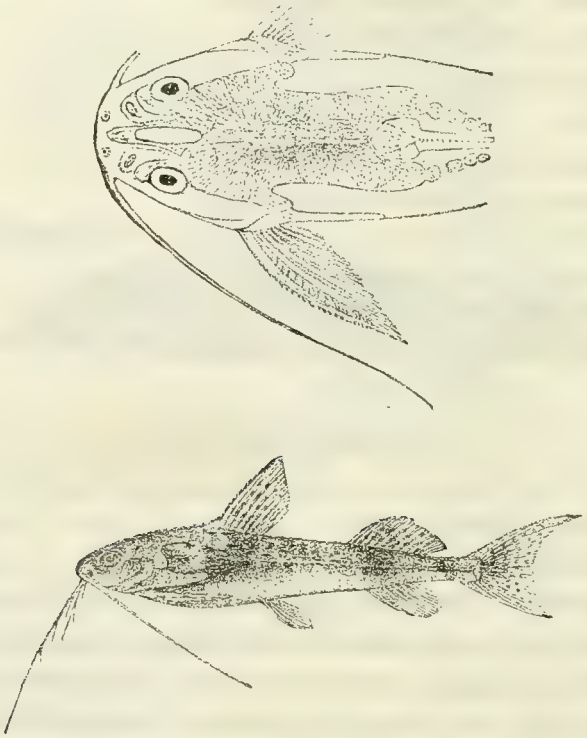
Rhinoglanis typus, Günth. ll. cc. pp. 216, fig., and 237, fig.

Rhinoglanis vannutellii, Vinciguerra, Ann. Mus. Genova, (2) xix. 1898, p. 254.

Depth of body $4\frac{1}{3}$ to $5\frac{2}{3}$ times in total length, length of head $3\frac{1}{3}$ to $4\frac{1}{2}$ times. Head depressed, not or but little longer than broad, rugose above, with a large, oval frontal fontanelle; occiput with a low, blunt keel, which is continued on the nuchal shield; eye supero-lateral, 3 to $4\frac{1}{2}$ times in length of head, $1\frac{1}{3}$ to $1\frac{1}{2}$ times in interorbital width. Barbels long and slender, maxillary $1\frac{1}{2}$ to $2\frac{1}{4}$ times as long as head, reaching posterior third of pectoral spine, base of ventral, or a little beyond; mandibular barbels shorter, with a few slender simple branches. Occipito-nuchal shield as long as broad or longer than broad, with short, rounded posterior processes. A long pointed humeral process. Anterior dorsal I 7 (rarely 8), much nearer end of snout than root of caudal; spine as long as or a little shorter than head, finely serrated in front; second dorsal with 10–15 rays, preceded by a few fulcra-like bony scutes, as long as or a little longer than its distance from the first. A series of three or four small bony scutes, ankylosed to the interneural bones, on each side of soft part of first dorsal fin. Anal 9–10. Pectoral spine as long as or a little longer than that of dorsal, finely serrated on

outer border, with 7 (young) to 14 very strong antrorse serræ on its inner border, reaching base of ventral or not quite so far. Ventral equally distant from end of snout and from root of caudal, or a little nearer the former, not reaching anal. Caudal deeply emarginate, upper lobe the longer. Caudal peduncle nearly twice as long as deep. Pale

Fig. 368.



Mochocus niloticus.
Luxor (F. N.).

yellowish or greyish olive above, speckled and marbled with blackish; two more or less regular dark bands across the back, one under each of the dorsal fins; belly white; dorsal and caudal fins yellowish, dotted or spotted with blackish.

Total length 65 millim.

Lower Nile to Bahr-el-Gebel; Lake Rudolf.—Type (Paris Museum) apparently lost.

1–3. Ad.	Beni Souef, Low. Nile.	L. Loat, Esq. (C.).
4–13. Ad., hgr., & yg.	Near Luxor.	,,
14–23. Ad., hgr., & yg.	Between Luxor and Assuan.	,,
24–27. Ad. & hgr.	Assuan.	,,
28. Skel.	,,	,,
29–31. Hgr.	Kaka, White Nile.	,,

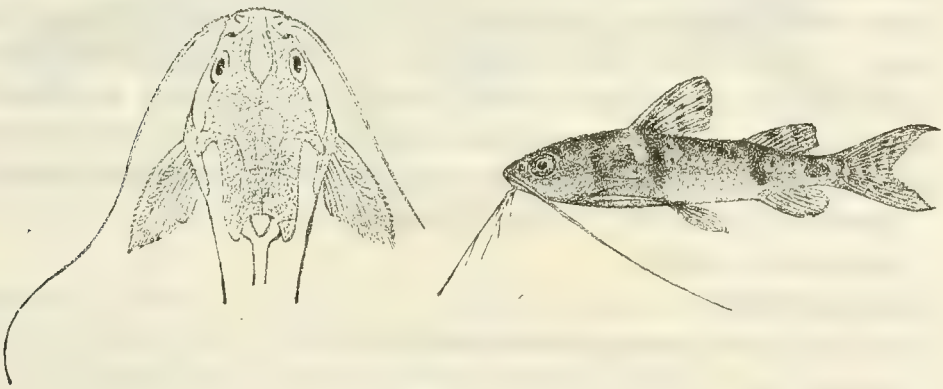
32. Ad.	Tonga, White Nile.	L. Loat, Esq. (C.).
33–36. Ad.	L. No, „	„
37. Type of *Rhinoglanis typus*.	Gondokoro.	J. Petherick, Esq. (C.).
38–44. Ad. & hgr.	„	L. Loat, Esq. (C.).

2. MOCHOCUS BREVIS.

Bouleng. Ann. & Mag. N. H. (7) xviii. 1906, p. 148, and Fish. Nile, p. 390, pl. lxxvi. fig. 3 (1907).

Distinguished from the preceding by the shorter caudal part of the body, the first dorsal fin being equally distant from end of snout and from root of caudal, or a little nearer the former. Depth of body $3\frac{1}{2}$ to

Fig. 369.



Mochocus brevis.
Type (F. N.).

$4\frac{1}{3}$ times in total length, length of head 3 to $3\frac{1}{2}$ times. Occiput and nuchal shield slightly tectiform, but without a keel. Maxillary barbel reaching extremity of ventral or a little beyond. First dorsal I 6, the spine without any serration and always shorter than head; second dorsal with 9–16 rays. Anal 9–10. No scutes at sides of soft rays of first dorsal fin. Pectoral spine reaching root of ventral, with 6 to 10 very strong serræ on inner side. Caudal peduncle only a little longer than deep. Coloration as in *M. niloticus*, but pectoral, ventral, and anal fins with some brown spots.

Total length 31 millim.

White Nile.

1–15. Types.	Fashoda.	L. Loat, Esq. (C.).
16. Type.	L. No.	„

34. DOUMEA.

Sauvage, Bull. Soc. Philom. (7) iii. 1878, p. 96, and N. Arch. Mus. (2) iii. 1880, p. 41 ; Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 526.

Body elongate, feebly depressed, with extremely slender caudal peduncle. Two short dorsal fins, the anterior entirely in advance of the ventrals and formed of one simple, thickened but articulated, and 6 branched rays, the second much smaller, opposed to the anal, and formed of fine rays partly concealed in adipose tissue ; pectoral and ventral fins large, horizontally expanded, the outer ray much thickened but not ossified, formed of very numerous articles angularly bent and produced on the outer side into a fringe imbedded in the thickened integument; ventral with 6 rays. No cephalo-nuchal shield. A maxillary and two mandibular barbels on each side, verrucose like the lips. Nostrils remote from each other, both with a valve. Eye small, without free border. Mouth small, inferior, surrounded with thick papillose lips; small pointed præmaxillary teeth; mandibular teeth few or absent; palate toothless. Gill-openings narrowly interrupted at the isthmus, the membrane forming an uninterrupted transverse fold. Air-bladder absent.

Vertebræ 37 (17 + 20). 6 branchiostegal rays.

Cameroon to Angola.

Two species :—

Head $1\frac{2}{5}$ to $1\frac{1}{2}$ times as long as broad, snout $1\frac{2}{3}$ to $1\frac{3}{4}$ times as long as postocular part of head ; space between the two nostrils on each side equally distant from end of snout and from eye . . . . . 1. *D. typica*, Sauv., p. 496.

Head $1\frac{1}{3}$ times as long as broad, snout $1\frac{1}{2}$ times postocular part of head ; posterior nostril nearer eye . . . . . 2. *D. angolensis*, Blgr., p. 497.

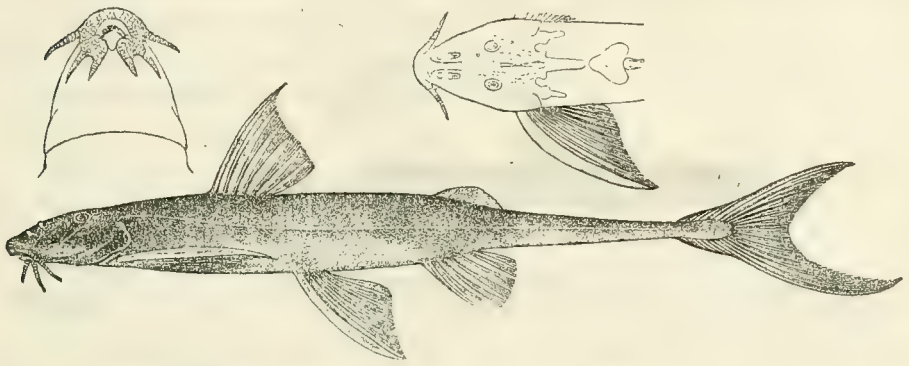
1. DOUMEA TYPICA.

Sauv. ll. cc. pl. iii. fig. 1 ; Bouleng. t. c. p. 527, and xii. 1903, p. 440.

Depth of body slightly less than its width, $7\frac{1}{2}$ to 9 times in total length. Head strongly depressed, with slightly rugose vertex and occiput, covered with a thin skin, $1\frac{2}{5}$ to $1\frac{1}{2}$ times as long as broad, 5 to $5\frac{1}{2}$ times in total length ; snout pointed, projecting a little beyond mouth, $1\frac{2}{3}$ to $1\frac{3}{4}$ times as long as postorbital part of head ; space between the two nostrils on each side equally distant from end of snout and from

eye; latter directed upwards, $6\frac{1}{2}$ to 8 times in length of head, $1\frac{1}{2}$ to 2 times in interorbital space. Maxillary barbel $\frac{1}{4}$ to $\frac{1}{3}$ length of head, mandibular barbels shorter still. Occipital process narrow, nearly 3 times as long as broad, narrowly separated from interneural shield. First dorsal I 6; first ray as long as or a little longer than head; border of fin slightly concave. Anal II 6–7. Pectoral usually not reaching ventral; latter extending beyond origin of anal. Caudal deeply notched,

Fig. 370.



Doumea typica.
S. Cameroon. $\frac{2}{3}$.

crescentic, lower lobe the longer. Caudal peduncle a little depressed, about $\frac{1}{3}$ total length. Brownish above, whitish beneath.

Total length 160 millim.

Upper Ogowe, South Cameroon.—Type, in Paris Museum, examined.

1–11. Ad. & hgr.	Efulen, S. Cameroon.	G. L. Bates, Esq. (C.).
12. Skel.	Kribi R., „	„
13. Ad.	Ja R., „	„

2. DOUMEA ANGOLENSIS.

Bouleng. Ann. & Mag. N. H. (7) xviii. 1906, p. 347.

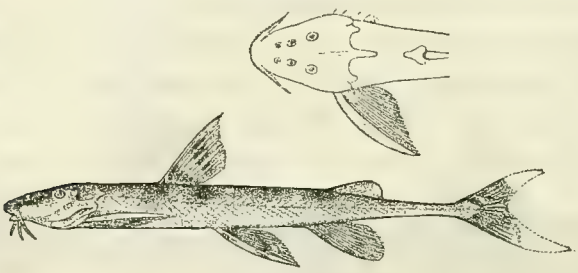
Depth of body $10\frac{1}{2}$ times in total length, head $5\frac{1}{4}$ times. Head smooth above, $1\frac{1}{3}$ times as long as broad; snout obtusely pointed, projecting beyond mouth, $1\frac{1}{2}$ times as long as postorbital part of head; space between the two nostrils nearer eye than end of snout; eye 8 times in length of head, twice in interorbital width. Maxillary barbel $\frac{1}{3}$ length of head, mandibular barbels a little shorter still. Occipital process half length of snout, widely separated from interneural shield. Dorsal I 6, first ray nearly as long as head. Anal I 7. Pectoral not

reaching ventral; latter just reaching origin of anal. Caudal peduncle $\frac{2}{7}$ total length. Yellowish brown above, whitish beneath; ill-defined dark bars across the back; a dark streak from the end of the snout to the eye; two dark transverse bars on the dorsal, anal, pectoral, and ventral fins.

Total length 70 millim.

Benguella.

Fig. 371.



Doumea angolensis.
Type.

1. Type. Interior of Benguella, 4000–5000 ft. Dr. F. C. Wellman (P.).

35. PHRACTURA.

Peltura (non M.-Edw.), Perugia, Ann. Mus. Genova, (2) x. 1892, p. 972.
Phractura, Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 527, and Poiss. Bass. Congo, p. 333 (1901).

Body elongate, depressed, with extremely slender caudal peduncle; a series of imbricate scutes* along each side of the back and belly from the dorsal and ventral fins to the caudal peduncle, which may be entirely surrounded by these scutes. Two short dorsal fins, the anterior entirely in advance of the ventrals and formed of one simple, flexible, and 6 or 7 branched rays, the second opposed to the anal and adipose, with fine soft rays; pectoral and ventral fins large, horizontally expanded, without spine, but with thickened, simple outer ray as in *Doumea*; 6 ventral rays. No occipito-nuchal shield. Mouth small, inferior, surrounded with large papillose lips; no mandibular teeth; small conical præmaxillary teeth; a maxillary and two mandibular barbels on each side; nostrils rather remote from each other, both with a valve; eye small,

* Expansions of processes of the vertebræ.

without free border. Gill-openings narrowly interrupted at the isthmus. Air-bladder absent.

Vertebræ 35–36 (16–17+18–20).

Niger, Cameroon, Ogowe, Congo.

Synopsis of the Species.

I. Occipital process not reaching interneural shield; snout about $\frac{1}{2}$ length of head.

A. Posterior nostril nearly as distant from eye as the anterior from end of snout.

1. Occipital process 3 to 4 times as long as broad.

Eye 10 to 11 times in length of head, $2\frac{1}{2}$ to 3 times in interocular width; maxillary barbel $\frac{2}{3}$ length of head; caudal peduncle $\frac{1}{3}$ total length . . . . . 1. *P. bovei*, Perug., p. 499.

Eye 6 to 7 times in length of head, twice in interocular width; maxillary barbel $\frac{1}{2}$ length of head; caudal peduncle $\frac{2}{7}$ to $\frac{1}{3}$ total length . . . . . 2. *P. lindica*, Blgr., p. 500.

2. Occipital process about twice as long as broad; maxillary barbel $\frac{1}{3}$ to $\frac{2}{3}$ length of head.

Eye 6 to 7 times in length of head, twice in interocular width; caudal peduncle $\frac{1}{4}$ to $\frac{2}{7}$ total length . . . . . 3. *P. brevicauda*, Blgr., p. 502.

Eye 6 to 7 times in length of head, twice in interocular width; caudal peduncle $\frac{3}{8}$ to $\frac{2}{5}$ total length . . . . . 4. *P. intermedia*, Blgr., p. 503.

Eye $5\frac{1}{2}$ times in length of head, $1\frac{1}{2}$ times in interocular width; caudal peduncle $\frac{2}{5}$ total length . . . . . 5. *P. longicauda*, Blgr., p. 504.

B. Posterior nostril close to the eye; head rugose above, with strong ridges; caudal peduncle $\frac{1}{3}$ total length . . . . . 6. *P. ansorgii*, Blgr., p. 504.

II. Occipital process in contact with interneural shield; snout more than $\frac{1}{2}$ length of head; maxillary barbel $\frac{1}{4}$ length of head; caudal peduncle $\frac{1}{3}$ total length . 7. *P. scaphirhynchura*, Vaill., [p. 505.

1. PHRACTURA BOVEI.

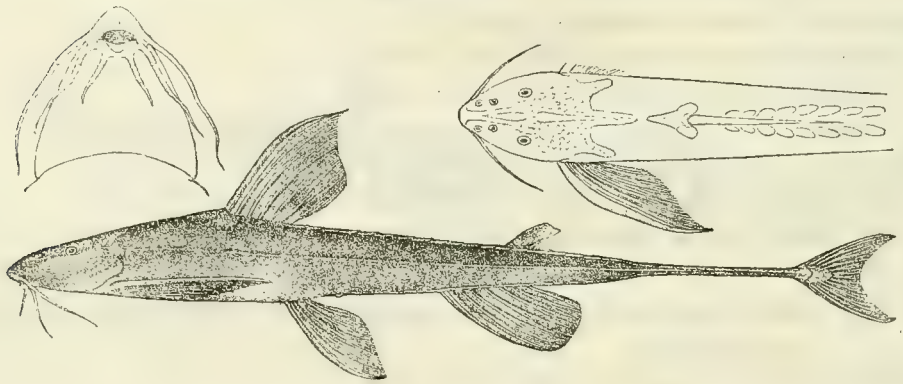
Peltura bovei, Perugia, Ann. Mus. Genova, (2) x. 1892, p. 972, fig.

Phractura bovei, Bouleng. Ann. & Mag. N. H. (7) vi. p. 528, and Poiss. Bass. Congo, p. 334 (1901).

Depth of body 8 or 9 times in total length, length of head 6 to $6\frac{1}{2}$

times. Head $1\frac{1}{3}$ times as long as broad; skull a little rugose, covered with thin skin; snout a little longer than postocular part of head, pointed, projecting beyond mouth; space between the nostrils equally distant from end of snout and eye; latter directed upwards, 10 or 11 times in length of head and $2\frac{1}{2}$ to 3 times in the interocular width; maxillary barbel $\frac{2}{3}$ length of head, reaching or nearly reaching gill-opening, mandibular barbels much shorter. Occipital process 3 times as long as broad, not reaching interneural shield. Dorsal I 7; first ray

Fig. 372.



Phractura bovei.
Lower Congo.

longest, $\frac{1}{4}$ longer than head; second dorsal very small. Anal II 7. Pectoral longer than head, as long as or a little longer than the ventral; latter nearly reaching the anal. Caudal with crescentic notch. Caudal peduncle depressed, $\frac{1}{3}$ total length. 23–24 dorsal and 19 ventral scutes, the last 5 united on caudal peduncle. Uniform yellowish brown in spirit.

Total length 110 millim. . . . . .

Lower Congo.—Type in Genoa Museum.

1. Ad. Lower Congo. Brussels Museum (E.).

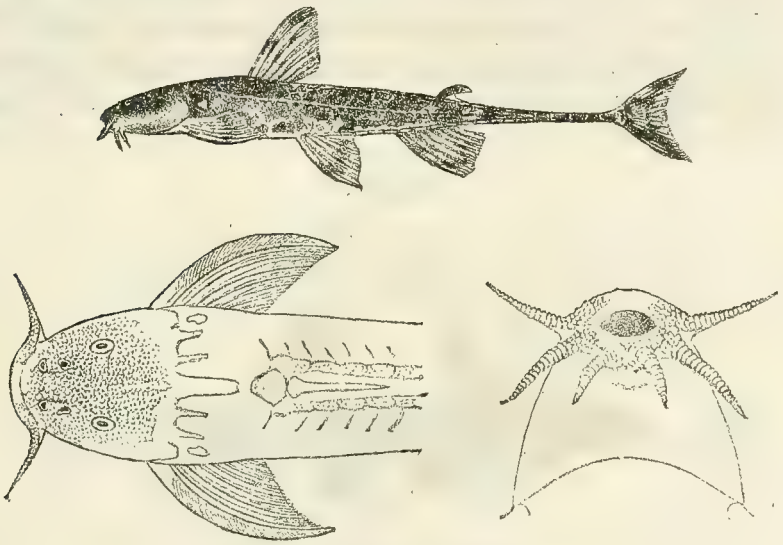
2. PHRACTURA LINDICA.

Bouleng. Proc. Zool. Soc. 1902, i. p. 268, pl. xxviii. fig. 3.

Depth of body $7\frac{1}{2}$ to 8 times in total length, length of head 5 to $5\frac{1}{2}$ times. Head $1\frac{1}{3}$ to $1\frac{2}{5}$ times as long as broad, nearly smooth above, covered with papillose skin; snout $\frac{1}{2}$ length of head, obtusely pointed,

projecting but slightly beyond mouth; space between the two nostrils equally distant from end of snout and from eye; latter directed upwards, 6 to 7 times in length of head, twice in interocular width; maxillary barbel $\frac{1}{2}$ length of head, outer mandibular $\frac{1}{3}$, inner mandibular $\frac{1}{4}$. Occipital process narrow, 4 times as long as broad, narrowly separated from interneural shield. Dorsal I 6; first ray longest, slightly longer

Fig. 373.



Phractura lindica.
Type (P. Z. S. 1902).

than head; second dorsal very small, originating above last rays of anal. Anal II 7–8. Pectoral a little longer than head, reaching or not quite reaching ventral; latter a little shorter, reaching anal. Caudal with crescentic notch. Caudal peduncle depressed, $\frac{2}{7}$ to $\frac{1}{3}$ total length. 23–24 dorsal and 18–19 ventral scutes, of which 8–9 on caudal peduncle. Yellowish brown above, speckled with darker and with four more or less distinct broad dark cross-bands; fins whitish, with brown spots forming bars across the pectorals and ventrals.

Total length 82 millim.

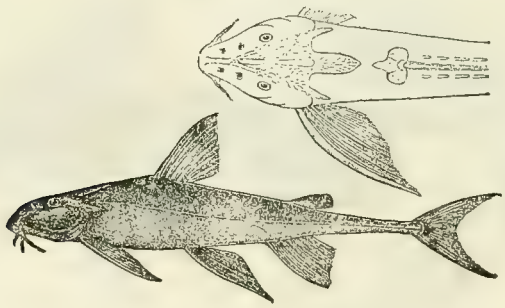
Lindi River, Upper Congo.—Type in Brussels Museum.

1. One of the types.	Lindi R.	M. M. Storms (C.); Brussels Museum (P.).

3. PHRACTURA BREVICAUDA, sp. n.

Depth of body 6 to $7\frac{1}{2}$ times in total length, length of head 4 to $4\frac{1}{2}$ times. Head $1\frac{1}{3}$ to $1\frac{2}{5}$ times as long as broad, rugose above, covered with thin skin; snout $\frac{1}{2}$ length of head, obtusely pointed, projecting but little beyond mouth; space between the two nostrils equally distant from end of snout and from eye; latter directed upwards, 6 to 7 times in length of head, 2 to $2\frac{1}{2}$ times in interocular width; maxillary barbel $\frac{2}{5}$ to $\frac{1}{2}$ length of head, mandibulars shorter. Occipital process about twice as long as broad, widely separated from interneural shield. Dorsal I 6; first ray nearly as long as or a little longer than head; second dorsal very small, originating above middle of anal. Anal II 7–8. Pectoral

Fig. 374.



Phractura brevicauda.
Type, Lobi R.

a little longer than head, not reaching ventral; latter reaching origin of anal or a little beyond. Caudal with crescentic notch. Caudal peduncle depressed, $\frac{1}{4}$ to $\frac{2}{7}$ total length. 23–26 dorsal and 18–19 ventral scutes, very small on body, larger on caudal peduncle (8 or 9 last), which is naked on the side. Brownish above, uniform or spotted or speckled with dark brown, or dark brown with three or four yellowish bars across the back; whitish beneath; usually a dark spot on dorsal fin and one on each lobe of caudal.

Total length 70 millim.

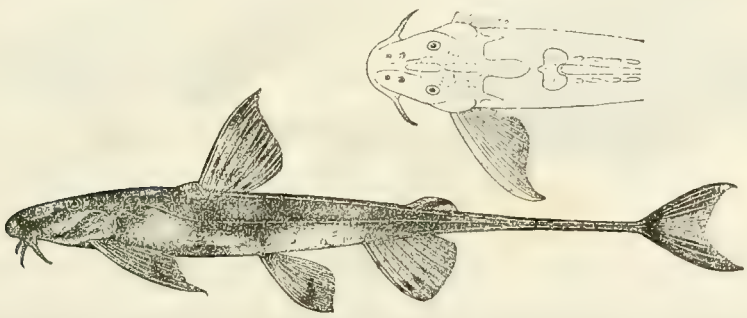
South Cameroon, Ogowe.

1–8. Types.	Trib. of Lobi R., S.W. of Efulen, S. Cameroon.	G. L. Bates, Esq. (C.).
9. Skel.	,, ,,	,,
10–11. Types.	Kribi R., ,,	,,
12. Type.	Abanga R., Ogowe.	Dr. W. J. Ansorge (C.).

4. PHRACTURA INTERMEDIA, sp. n.

Depth of body 8 to 10 times in total length, length of head 5 to $5\frac{1}{2}$ times. Head $1\frac{1}{3}$ times as long as broad, rugose above, covered with thin skin; snout $\frac{1}{2}$ length of head, obtusely pointed, projecting a little beyond mouth; space between the two nostrils equally distant from end of snout and from eye; latter directed upwards, 6 to 7 times in length of head, twice in interocular width; maxillary barbel $\frac{1}{3}$ length of head, mandibulars shorter. Occipital process 2 to $2\frac{1}{2}$ times as long as broad, widely separated from interneural shield. Dorsal I 6; first ray as long as or a little longer than head; second dorsal very small, above last rays of anal. Anal II 7–8. Pectoral as long as or a little longer than head, not reaching ventral; latter reaching origin of anal or a little

Fig. 375.



Phractura intermedia.
Type.

beyond. Caudal with crescentic notch. Caudal peduncle depressed, $\frac{3}{8}$ to $\frac{2}{5}$ total length. Head and body often covered with wart-like tubercular papillæ. 24–26 dorsal and 17–19 ventral scutes, very narrow on the body, larger on caudal peduncle (11 or 12 last), which has a very narrow naked strip on the side. Brownish above, usually speckled with darker, and with three or four more or less regular dark bars across the back, one or two blackish bars on the dorsal and on the anal, and usually a blackish spot on the pectoral and on the ventral; usually a blackish blotch on each lobe of the caudal.

Total length 95 millim.

South Cameroon.

1–10. Types.	Ja R. at Bitye.	G. L. Bates, Esq. (C.).
11. Skel.	,,	,,
12–14. Types.	Libi R., affl. of Ja R.	,,
15–17. Types.	Kribi R.	,,
18. Type.	Nyong R.	,,

5. PHRACTURA LONGICAUDA.

Bouleng. Ann. & Mag. N. H. (7) xii. 1903, p. 439.

Depth of body 14 times in total length, length of head $6\frac{1}{2}$ times. Head $1\frac{1}{3}$ as long as broad, the slightly rugose skull covered with very thin skin; snout half length of head, pointed, projecting a little beyond mouth; space between the two nostrils at nearly equal distance from end of snout and from eye; eye supero-lateral, its diameter $5\frac{1}{2}$ times in length of head, $1\frac{1}{2}$ in interocular width; maxillary and outer mandibular barbels subequal, $\frac{1}{3}$ length of head, inner mandibular $\frac{1}{4}$; occipital

Fig. 376.

Phractura longicauda.
Type.

process about twice as long as broad, widely separated from the interneural shield. Dorsal I 6, first ray longest, spinulose, as long as head; second dorsal very small, originating above last rays of anal. Anal II 6. Pectoral slightly longer than head, not reaching root of ventral. Caudal peduncle depressed, very slender, $\frac{2}{5}$ total length. 25 dorsal and 19 ventral shields, of which 11 are on caudal peduncle, the last 4 united round the latter. Brownish above, speckled with dark brown, white beneath; fins spotted with blackish.

Total length 77 millim.

South Cameroon.

1. Type. Mvile R. G. L. Bates, Esq. (C.).

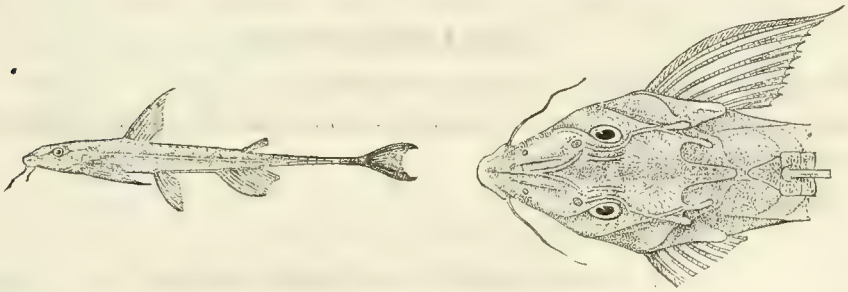
6. PHRACTURA ANSORGII.

Bouleng. Proc. Zool. Soc. 1901, ii. p. 623, pl. xxxvii. fig. 1.

Depth of body 10 times in total length, length of head 5 times. Head $1\frac{1}{2}$ times as long as broad, rugose above, covered with thin skin; a median ridge on the snout, bifurcating towards the interorbital region;

snout a little longer than postocular part of head, pointed, projecting beyond mouth; posterior nostril close to the eye; latter directed upwards, 7 times in length of head, $1\frac{2}{3}$ times in interocular width; maxillary barbel $\frac{1}{2}$ length of head, mandibulars shorter. Occipital process $2\frac{1}{2}$ times as long as broad, narrowly separated from interneural shield. Dorsal I 6; first ray longest, as long as head; second dorsal very small. Anal I 10. Pectoral as long as head, nearly reaching ventral; latter a little shorter, nearly reaching anal. Caudal with crescentic notch. Caudal peduncle a little depressed, $\frac{1}{3}$ total length. 26 dorsal

Fig. 377.



Phractura ansorgii.
Type (P. Z. S. 1901).

and 22 ventral scutes, the last 11 on caudal peduncle. Pale brownish above, speckled with blackish, white beneath; two small blackish spots on the dorsal fin and two blackish streaks along the caudal.

Total length 46 millim.

Lower Niger.

1. Type. Agberi. Dr. W. J. Ansorge (C.).

7. PHRACTURA SCAPHIRHYNCHURA.

Doumea scaphirhynchura, Vaill. Rev. Scientif. xxiii. ii. 1886, p. 18.
Peltura scaphirhynchura, Pellegr. Bull. Mus. Paris, 1900, p. 6.
Phractura scaphirhynchura, Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 528, and Poiss. Bass. Congo, p. 335 (1901).

Depth of body 9 times in total length, length of head 5 times. Head $1\frac{1}{2}$ times as long as broad, rugose above, covered with thin skin; snout twice as long as postocular part of head, pointed, projecting a little beyond mouth; space between nostril equally distant from end of snout and from eye; latter directed upwards, 7 times in length of head, $1\frac{1}{2}$

times in interocular width; maxillary barbel $\frac{1}{4}$ length of head, mandibulars shorter still. Occipital process $2\frac{1}{2}$ times as long as broad, reaching interneural shield, but not forming a suture with it. Dorsal I 6; first ray longest, as long as head; second dorsal very small. Anal I 7. Pectoral as long as head. Ventral as long as pectoral, extending a little beyond origin of anal. Caudal peduncle depressed, $\frac{1}{3}$ total length. 22 dorsal and 18 ventral scutes. Brownish; fins barred black and white.

Total length 120 millim.

Alima R., Upper Congo.—Type, in Paris Museum, examined.

36. PARAPHRACTURA.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 47 (1902).

As in the preceding, but lower jaw with a band of small conical teeth, interrupted at the symphysis.

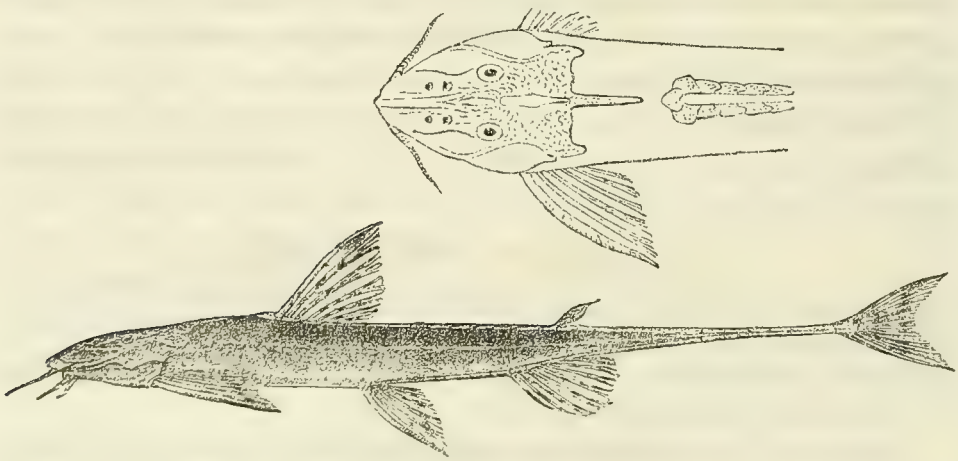
Ubanghi.

1. PARAPHRACTURA TENUICAUDA.

Bouleng. t. c. p. 48, pl. xiv. fig. 2.

Depth of body 10 to 12 times in total length, length of head 5 to $5\frac{1}{2}$

Fig. 378.



Paraphractura tenuicauda.
Type (A. M. C.). $\frac{4}{3}$.

times. Head $1\frac{2}{5}$ to $1\frac{1}{2}$ times as long as broad, feebly rugose above, covered with thin skin; snout a little longer than postocular part of

head, pointed, projecting a little beyond the mouth; space between the nostrils a little nearer eye than end of snout; eye directed upwards, 7 times in length of head, $1\frac{1}{2}$ to $1\frac{2}{3}$ times in interocular width; maxillary barbel verrucose, $\frac{1}{3}$ to $\frac{2}{5}$ length of head, outer mandibular $\frac{1}{4}$ to $\frac{1}{3}$, inner mandibular $\frac{1}{6}$ to $\frac{1}{5}$; occipital process very narrow, not reaching interneural shield. Dorsal I 6; first ray longest, as long as head; second dorsal very small. Anal II 7. Pectoral as long as head, not reaching ventral; latter also as long as head, not quite reaching anal. Caudal with crescentic notch. Caudal peduncle depressed, about $\frac{1}{3}$ total length. 24–26 dorsal and 18–20 ventral scutes, the last 6 united on caudal peduncle. Brown above, speckled or vermiculate with black, white beneath; fins spotted with blackish.

Total length 95 millim.

Ubanghi.—Types in Congo Museum, Tervueren.

1–2. Two of the types. Banzyville. Capt. Royaux (C.).

37. TRACHYGLANIS.

Boulenger. Ann. Mus. Congo, Zool. ii. p. 48 (1902).

Body elongate, feebly depressed, with extremely slender caudal peduncle; two series of rough, bicarinate bony scutes on each side, uniting on the caudal peduncle. Two short dorsal fins, the first just in front of the ventrals and composed of a spine and 6 branched rays, the second very small and formed of thin rays preceded by a spine. Anal short. Pectoral with the outer ray spinous; ventral with 6 rays. No occipito-nuchal shield; a spine-like process of the coracoid, under the base of the pectoral fin. Mouth small, inferior, with feebly developed lips; small conical teeth in both jaws; no vomerine teeth; a maxillary and two mandibular barbels on each side. Nostrils rather close together; eye small, without free border. Gill-openings broadly interrupted at the isthmus. Air-bladder much reduced.

Ubanghi.

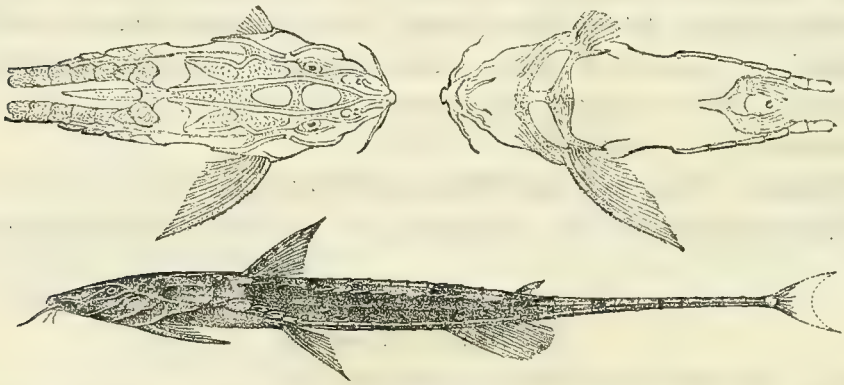
1. TRACHYGLANIS MINUTUS.

Boulenger. t. c. p. 49, pl. xiv. fig. 3.

Depth of body 10 to 11 times in total length, length of head 5 to $5\frac{2}{3}$ times. Head much depressed, $1\frac{1}{3}$ times as long as broad, rugose above, with finely denticulate ridges, two of which extend from the snout to the median occipital process, embracing two large cranial fontanelles;

three occipital processes, the median embracing the point of the interneural shield; snout pointed, projecting strongly beyond the mouth; eye 9 to 10 times in length of head, 3 to $3\frac{1}{2}$ times in interocular width. Maxillary barbel about $\frac{1}{2}$ length of head, mandibulars $\frac{1}{4}$. Coracoid and clavicle exposed, rugose. First dorsal I 6; spine covered with asperities, a little shorter than head. Anal 10 (first ray rudimentary). Pectoral spine similar to dorsal, but a little shorter, not reaching ventral; latter

Fig. 379.



Trachyglanis minutus.
Type (A. M. C.). × 2.

widely separated from ventral. Caudal peduncle a little depressed, about $\frac{1}{3}$ total length. Series of scutes beginning before origin of dorsal, uniting on caudal peduncle; 18–20 dorsal and 29–30 latero-ventral scutes, 9–10 last on caudal peduncle. Light brown above, darker on the head and sides, with broad dark bars; belly whitish.

Total length 50 millim.

Ubanghi.—Types in Congo Museum, Tervueren.

1–2. Two of the types. Banzyville. Capt. Royaux (C.).

38. BELONOGLANIS.

Bouleng. Ann. Mus. Congo, Zool. ii. p. 50 (1902).

As in the preceding, but bony scutes still more developed, not keeled, and forming a single series on the back behind the dorsal fin, first dorsal and pectoral rays thickened but not spinous, and mouth toothless.

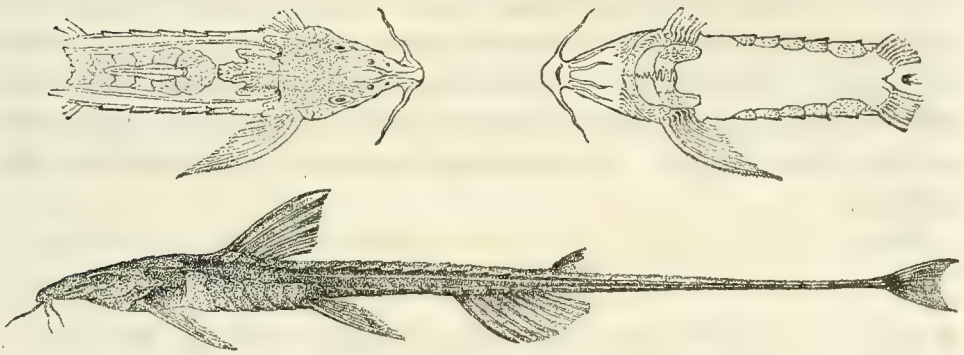
Ubanghi.

1. BELONOGLANIS TENUIS.

Bouleng. l. c. pl. xiv. fig. 4.

Depth of body 14 times in total length, length of head 7 times. Head much depressed, $1\frac{1}{2}$ times as long as broad, covered above with granular asperities; a ⅄-shaped ridge on snout; no fontanelle; occipital process trilobate; snout acutely pointed, $\frac{1}{2}$ length of head, strongly projecting beyond mouth; eye 6 times in length of head, $2\frac{1}{4}$ times in

Fig. 380.



Belonoglanis tenuis.
Type (A. M. C.). $\frac{3}{2}$.

interocular width. Maxillary barbel $\frac{2}{5}$ length of head, mandibulars a little shorter. Coracoid with a broad, rounded, rugose process below base of pectoral. First dorsal I 7, first ray as long as head. Anal 10 (first ray rudimentary). Pectoral nearly as long as head, not reaching ventral; latter widely separated from anal. Caudal short and notched. Caudal peduncle very thin and depressed, $\frac{2}{5}$ total length. Dorsal scutes 28, from origin of dorsal; 6 large scutes on each side of body, followed by 23 on each side of lower surface of tail, the last 6 uniting with the dorsals on caudal peduncle. Uniform brownish; end of dorsal and anal, second dorsal, and caudal black; a black bar on pectoral and on ventral.

Total length 83 millim.

Ubanghi.—Type in Congo Museum, Tervueren.

39. ANDERSONIA.

Bouleng. Ann. & Mag. N. H. (7) vi. 1900, p. 528, and Fish. Nile, p. 392 (1907).
Slatinia, Werner, Anz. Akad. Wien, 1906, p. 326.

Body elongate, depressed, with extremely slender caudal peduncle; a series of imbricate bony scutes along each side of the back and belly from the dorsal and ventral fins to the caudal peduncle, which is entirely surrounded by bony scutes. Two short dorsal fins, the first above the ventrals and formed of a spine and six branched rays, the second opposed to the anal and formed of fine soft rays preceded by a short spine. Pectoral fin with a strong spine; ventral fin with 6 rays. No cephalo-nuchal shield. Mouth small, inferior, toothless; lips not much developed. A maxillary and two mandibular barbels on each side. Nostrils rather remote from each other, both with a valve. Eye small, without free border. Gill-openings narrowly interrupted at the isthmus.

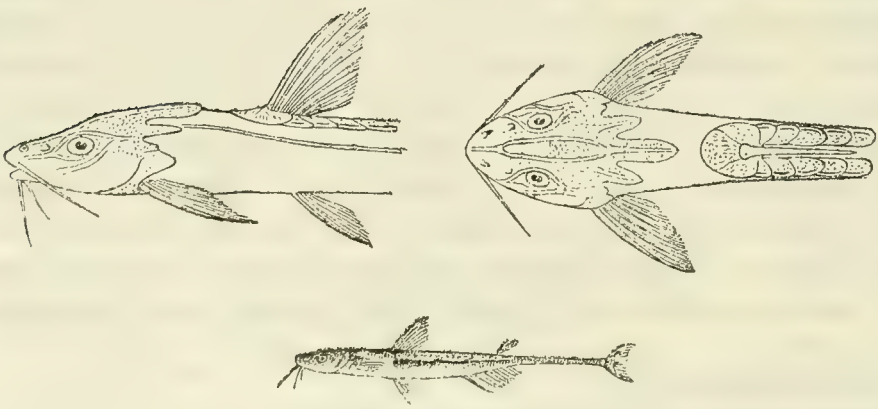
Nile.

1. ANDERSONIA LEPTURA.

Bouleng. t. c. pp. 529, 392, pl. lxxvi. fig. 4; Werner, Sitzb. Ak. Wien, cxv. i. 1906, pl. i. figs. 2–4.
Slatinia mongallensis, Werner, Anz. Ak. Wien, 1906, p. 327.

Depth of body 9 to 10 times in total length, length of head 5 to $5\frac{3}{4}$

Fig. 381.



Andersonia leptura.
Type (F. N.).

times. Head $1\frac{1}{3}$ times as long as broad, rugose above; an oval frontal fontanelle, with a ridge on each side of it, which is continued to base of

occipital process; snout obtusely pointed, a little shorter than post-ocular part of head, $2\frac{1}{3}$ times as long as diameter of eye, which is $\frac{1}{2}$ interorbital width. Barbels slender, maxillary twice as long as inner mandibular and half length of head, outer mandibular intermediate in length. Occipital process keeled, $2\frac{1}{2}$ times as long as broad, widely separated from interneural shield; a shorter process on each side of occipital process. First dorsal I 6, twice as distant from root of caudal as from end of snout, first ray as long as head, bony in its basal two-thirds, not serrated. Anal 10. Pectoral $\frac{3}{4}$ length of head, not reaching ventral; spine moderately strong, covered with minute asperities. Caudal with crescentic notch. Caudal peduncle depressed, $\frac{1}{3}$ total length. 25 dorsal and 23 ventral scutes, the last 9 on caudal peduncle; the dorsal scutes raised in a sharp keel on the outer border. Greyish above, dotted and marbled with blackish, white beneath; four rather indistinct dark bars across the back.

Total length 50 millim.

Upper Nile and Bahr-el-Gebel.

1. Type. Near Kosheh, S. of Wady Halfa. L. Loat, Esq. (C.).

40. MALOPTERURUS.

Lacep. Hist. Poiss. v. p. 90 (1803) *; Cuv. & Val. Hist. Poiss. xv. p. 518; Günth. Cat. Fish. v. p. 219 (1864); Bouleng. Poiss. Bass. Congo, p. 336 (1901), and Fish. Nile, p. 394 (1907).

Body moderately elongate, cylindrical or a little depressed. No rayed dorsal fin; an adipose dorsal fin. Anal fin short. Pectoral fin without spinous ray. Ventral fin with 6 rays. Three pairs of barbels: maxillary and two mandibular. Nostrils widely separated from each other. Eye lateral, without free border. Each jaw with a band of villiform teeth; palate toothless. Gill-openings short, restricted to the sides. Air-bladder very large, free, extending to the origin of the caudal region, divided into two by a constriction. An electric organ extending over the whole body, from the head to the origin of the adipose and anal fins.

Vertebræ 41 to 44 (20–22+21–22). 8 branchiostegal rays.

Nile and Tropical Africa.

* Spelt *Malapterurus*.

1. MALOPTERURUS ELECTRICUS.

Raja torpedo, Forsk. Descr. Anim. p. 15 (1775).

Le Trembleur, Brousson. Mém. Ac. Sci. 1782, p. 692, pl. xvii. (1785).

Silurus electricus, Gmel. Syst. Nat. i. p. 1351 (1789).

Malapterurus electricus, Lacep. Hist. Poiss. v. p. 91 (1803); I. Geoffr. Descr. Egypte, Poiss. p. 291, pl. xii. (1827); Joannis, Mag. Zool. 1835, Poiss. pl. i.; Cuv. & Val. Hist. Poiss. xv. p. 518, pl. cccclv. (1840); Günth. Cat. Fish. v. p. 219 (1864); Peters, Mon. Berl. Ac. 1868, p. 121, and Reise Mossamb. iv. p. 41 (1868); Günth. Petherick's Trav. ii. p. 240 (1869); G. Fritsch, Elektr. Fische, i. (1887); Ballowitz, Elekt. Org. Afr. Zitterwels. (1899); Bouleng. Poiss. Bass. Congo, p. 338, pl. xvi. fig. 2 (1901), and Fish. Nile, p. 395, pls. lxxvii. & lxxviii. (1907).

Rahad, Rifaud, Voy. Egypte, pl. 192 (1835).

Malapterurus beninensis, And. Murray, Edinb. New Philos. Journ. (2) ii. 1855, p. 49, pl. ii.; Günth. Cat. Fish. v. p. 220; Lönnb. Öfv. Vet.-Ak. Forh. Stockh. 1895, p. 187.

Malapterurus affinis, Günth. l. c.

Malapterurus electricus, var. *ogoensis*, Sauv. Bull. Soc. Philom. (7) iii. 1878, p. 99, and N. Arch. Mus. (2) iii. 1880, p. 45, pl. i. fig. 3.

Depth of body 4 to 5½ times in total length, length of head 4 to 5 times; back flattened, sometimes feebly grooved along the spine. Head

Fig. 382.

Malopterurus electricus.
Nile (F. N.). ⅓.

as long as broad or a little longer than broad; snout rounded, about ½ length of head; lower jaw sometimes slightly projecting; eye very small, lateral, its diameter 6 (young) to 15 times in length of head; interocular region ½ (young) to ¾ length of head; maxillary barbel ⅓ to ⅘ length of head; outer mandibular barbel longer, often reaching root of pectoral or a little beyond. Adipose dorsal low, 3 to 5 times as long as deep, narrowly separated from caudal. Anal III 6–10. Pectoral rounded, ½ to ⅗ length of head, as long as or a little longer

than ventral, which is inserted midway between eye or gill-opening and root of caudal, or a little nearer the latter. Caudal rounded. Grey, brown, or bluish above, white beneath, usually dotted, spotted, or blotched with black; caudal fin darker behind, more or less broadly bordered with orange or red; anal also bordered with orange or red; pectoral and ventral fins yellowish, reddish, or bright red; young with a light ring round the caudal peduncle, a black bar at the base of the caudal fin, and a crescentic black band on the posterior half of the fin.

Total length 600 millim. (grows to 850).

Nile and Tropical Africa (except Lake Victoria and Rivers of East Africa north of the Zambesi).

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10–19. Yg.	Near Luxor.	,,
20–21. Hgr. & yg.	Assuan.	,,
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50. Hgr.	Niger Delta.	A. Millson, Esq. (C.).
51–52. Types of *M. beninensis.*	Creek Town, Old Calabar.	Rev. H. M. Waddell (C.).
53. Type of *M. affinis.*	Old Calabar.	W. Carruthers, Esq. (P.).
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